

APRIL, 1953

MATERIAL FLOW

HANDLING • PRODUCTION • PACKAGING AND SHIPPING

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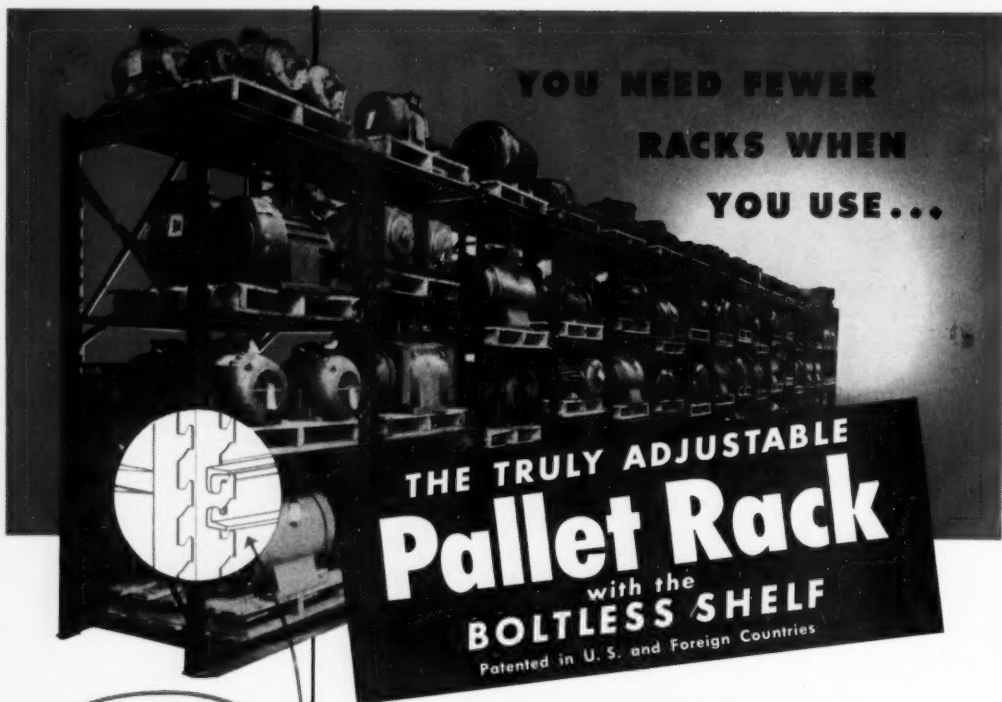
If You Package Fragile Productspage 114

New Productspage 42 Useful Literaturepage 140

DO YOU KNOW THE DETAILS OF THE
THIRD METHOD OF CIRCULATION

} See Back Cover

**YOU NEED FEWER
RACKS WHEN
YOU USE...**



*No bolts...no wrenches
necessary. The boltless
shelf adjusts to any size
opening on 4" centers.
No space is wasted.*

Rack Engineers have the profit-making answers to your production and storage problems. We'll show you how. Just phone or write... there's no obligation.

TEST EQUIPMENT AVAILABLE

RACK
ENGINEERING COMPANY
CONNELLSVILLE, PENNSYLVANIA
LONDON, ENGLAND

AGENTS IN PRINCIPAL CITIES, UNITED STATES, CANADA, EUROPE

**THE TRULY ADJUSTABLE
Pallet Rack**
with the
BOLTLESS SHELF
Patented in U.S. and Foreign Countries

• **COSTS NO MORE THAN ORDINARY RACKS**

In most cases is cheaper to buy and erect.

• **USES FAR LESS FLOOR SPACE**

Utilize vertical space better. In every case checked, fewer racks are needed. Saves as much as one third of floor space usually occupied.

• **NEVER BECOMES OBSOLETE**

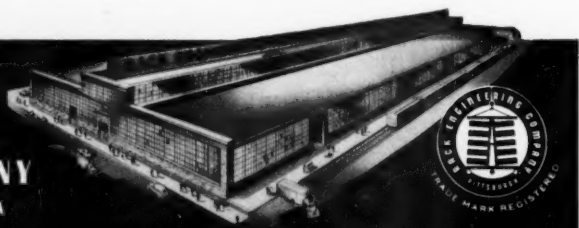
Adjusted easily for any size load. Standard uprights can be spaced to suit any size shelf.

• **ELIMINATES MULTIPLE HANDLINGS**

Shelf opening adjusts easily to permit quick placement of any size load.

• **QUICKLY ERECTED...UNIT WELDED UPRIGHTS**

Two men erect a ten-ton capacity adjustable pallet rack completely in 20 minutes or less. The uprights' braces are all welded into place.



Circle No. 155 on Reader Service Card for more information

NOW

A NEW LINE OF Automatic Skylift Trucks

AT NEW LOW PRICES

New "Standard" Automatics bring famous, money-saving Skylift quality within price reach of every business

**COMPARE
THESE
FEATURES**

Capacities
1000 to
4000
pounds



*Monolift Model

FEATURE	BENEFIT	TRUCK			AUTO-MATIC
		A	B	C	
Only Automatic Skylifts have Silicone insulation	Max. protection against motor damage from overheating	—	—	—	✓
Ball bearing mounted carriage and upright rollers	Friction-free lift, less wear — minimum current draw	✓	—	—	✓
Full magnetic control with plug-proof protection	Safety—lowest maintenance	✓	✓	—	✓
Spur and Hypoid gear drive fully enclosed in oil bath	Maximum efficiency under all load conditions	✓	—	—	✓
Patented duolift rams with leakage return	Exclusive! Protects ram plunger from dirt, damage	—	—	—	✓
Highest lift speed of any electric truck	Does more work—faster	—	—	—	✓
Heavy section rolled manganese alloy steel uprights	Better wearing quality, proper flange strength	✓	—	—	✓
Hydraulic Safety Fuse	Locks load in position if line ruptures	—	—	—	✓
Greatest accessibility for maintenance	Minimum down time, lowest maintenance costs	—	—	—	✓

Now, for the first time, Automatic makes available to industrial truck users a new line of battery-operated Sky-lift fork trucks *at new low prices*...with MORE MONEY-SAVING FEATURES than any other electric truck.

Built for Trouble-Free, Heavy-Duty Service

These rugged, new "Standard" Skylifts... built to give long, repair-free service, maximum maneuverability and smooth, fast, dependable operation...are equalled by no other truck for quality, price and performance.

Before you buy any lift truck, get the complete money-saving facts on the amazing materials handling savings these new Automatic "Standard" Skylifts will bring to *your business!* 2000 lb. model only **\$3575⁰⁰*** F.O.B. Chicago

PRICE IN U.S.A.

GET ALL THE FACTS—MAIL THIS COUPON TODAY →

Automatic

LARGEST EXCLUSIVE BUILDER OF
ELECTRIC INDUSTRIAL TRUCKS

Circle No. 89 on Reader Service Card for more information

Automatic

141 West 87th Street, Dept. D-3
Chicago 20, Illinois

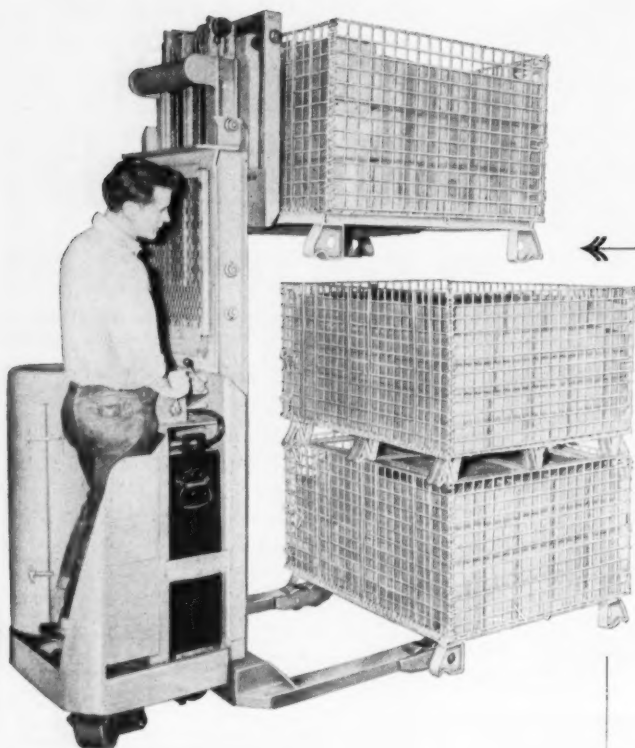
Without obligation, please send me full details and prices on your new line of low price "Standard" Skylift trucks.

Company Name.....

By.....Title.....

Address.....

City.....Zone.....State.....



4-leg
arrangement
of the new
Cargotainer
allows the use
of all types
of handling
equipment

The extra-sturdy construction of the new *Clearview* Cargotainer has permitted the complete elimination of center legs, and as a result all types of handling equipment may now be used. This open center also allows loading above the top wires without stacking difficulty. Other new advantages include:

1. Special corner plates to resist unusual shock.
2. New corner design for easier stacking and more secure locking.
3. Five folded Cargotainers now occupy the space of one unfolded.

The new *Clearview* Cargotainer will stack interchangeably with the standard model (see photo above) which will continue to be available for lighter applications. For full information and prices, write to us, Dept. FL, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.

Visit us in
Booth 222
MATERIALS HANDLING
EXPOSITION
Philadelphia—May 18-22

CARGOTAINERS

by Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Circle No. 56 on Reader Service Card for more information

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FLOW Magazine is affiliated with the Industrial Publishing Company which also publishes:

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MATERIAL FLOW

APRIL, 1953
VOLUME 8, NO. 7

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FLOW is indexed regularly by Engineering Index, Inc.

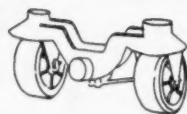
SUBSCRIPTION RATES

United States and possessions—\$3.00 per year, \$5.00 for 2 years. Subscriptions in the United Kingdom: £1.10 per annum, payable in Sterling to our London Office. Canada—\$4.00 per year, \$6.00 for 2 years. Foreign—\$5.00 per year. Single copy price—30 cents.

Published Monthly

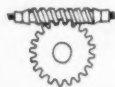
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Get these Plus Values of E



Non-Reversible, Easy Steering—

The E-P CASTER TRAIL AXLE absorbs shock at the wheel, none is transmitted through the steering mechanism. This axle design reduces steering effort, too. Caster trail axle also insures accurate steering geometry that cuts tire scrubbing.



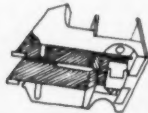
Silent, Trouble-Free Worm Drive

—The E-P WORM drive is quiet and does not require frequent, critical adjustments. Less wear and lower maintenance are insured. Entire drive is sealed for protection and thorough lubrication.



Power-Packed Motors—E-P Built

—Able to take tremendous overloads and practically indestructible and fire proof. Armature coil leads are brazed to commutator—cannot melt or vibrate loose. E-P motors have double brushes that reduce pressure and wear.

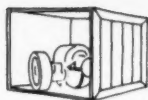


"Tank-Tough", Center Sill Frame

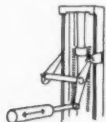
—The solid bar center sills run longitudinally from axle to axle, with outer shell of heavy plate welded to sills. Overloads and bumps will not impair alignment because center sills can absorb heavy shock. To simplify maintenance, all units are independently mounted to the frame.

Circle No. 108 on Reader Service Card

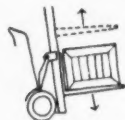
ELWELL-PARKER Fork Trucks



Packaged Unit Assemblies for Easy Maintenance—They insure fast, simple servicing without disturbing other components. Superior E-P design features described above—Caster trail axles, worm drive, special motors, etc.—inherently minimize break-down problems. E-P Service Engineers make periodic calls to advise about preventative maintenance.



Stable Tilt Action—DUAL Tilt Arms (not to be confused with dual tilt cylinders) keyed to a common shaft equalize forces on either side of uprights. This E-P design insures greater stability, prevents side sway.



Safe Lowering and Tilt Speeds—Both actions are controlled. This reduces shock loading that may damage mechanisms. Permits more accurate load spotting.



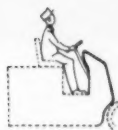
Big Area, Hydraulic Brakes—144 square inches of braking area insures positive stops. Hydraulic design does not transmit torque through the drive—less chance of broken drive shafts or gear teeth.



Trouble-Free Upright Action—E-P uprights have ROLLERS that eliminate wear and constant lubrication encountered with sliding up-rights.



Controlled Plugging and Acceleration—For safety and for additional braking effort controlled plugging is provided. Preadjusted time delay between speeds provides smooth acceleration under all operating conditions.



Protective Cowl—Guards driver's legs from falling objects and protruding loads.



Low Pressure Hydraulic System—E-P pressures are under 1500 p.s.i. This reduces chances of leakage. Cuts friction losses.

Any questions? Ask your nearby E-P man to explain these and many other Elwell-Parker *Plus Values*. He can also advise you about the E-P fork trucks best suited to your operations. The Elwell-Parker Co., 4234 St. Clair Avenue, Cleveland 3, Ohio.

NEW CATALOG fully describes all types of E-P trucks and explains the advantages of each. Write for your copy now.



ELWELL-PARKER
POWER INDUSTRIAL TRUCKS

Established 1893

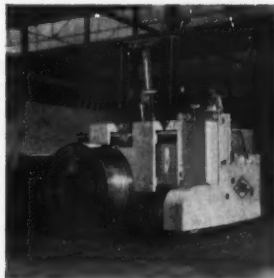
PLUS VALUES Pay Off in Peak Performance



50% More Storage. This E-P 2000 lb. truck made possible use of *all* storage space. Truck serves as "mobile elevator" to specially built balcony. Service improved because truck replaced unreliable, hard-to-get laborers.



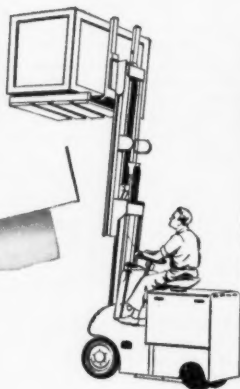
75% Less Man Hours. In cold storage plant 4 Elwell-Parkers do as much work as 16 men did by manual means. Roof-high storage was also achieved. The fume-free battery power never contaminates food stuffs.



20 Ton Loads. Hour after hour this ram truck moves huge steel coils with safety and dependability. Truck is almost 9 ft. wide but dual "finger-tip" controls give driver mastery of truck at all times.

The NEW T-H Exide-Ironclad

- ★ 20% more capacity in the same space
- ★ Lowest cost per A.H. to own and operate



Heavier demands on all types of battery-powered haulage equipment dictate the need for batteries with greater capacity.

The new Exide-Ironclad T-H battery gives 20% more capacity in the same space—WITHOUT SACRIFICE OF LONG LIFE for which Exide-Ironclad Batteries are famous.

This new T-H battery is of the time-

tested Exide-Ironclad construction, employing the exclusive slotted tube positive plate. New materials have made structural changes possible, which permit the use of larger positive plates—resulting in increased capacity.

The T-H line of Exide-Ironclad Batteries includes capacities for all battery-powered haulage units.

*Now—more than ever before...
YOUR BEST POWER BUY
AT ANY PRICE!*



Thrifty Hauler

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2
Exide Batteries of Canada, Limited, Toronto

1888—DEPENDABLE BATTERIES FOR 65 YEARS—1953
"EXIDE", "EXIDE-IRONCLAD", "SILVUM", "FORMAX", Reg. T.M. U.S. Pat. Off.

Circle No. 111 on Reader Service Card for more information

Battery



**THESE FEATURES
CONTRIBUTE TO THE
HIGHER CAPACITY AND
LONGER LIFE OF THE
T-H BATTERY**

**LARGER
POSITIVE PLATES**
of exclusive Exide-Iron-
clad slotted tube con-
struction.

POSITIVE PLATE SPINES
cast with the heavy top
cross bars, are of
SILVIUM, which re-
sists corrosion — con-
tributing to longer bat-
tery life.

SLOTTED PLASTIC TUBES
of non-oxidizing poly-
ethylene—retain active
material in contact with
spines, yet permit the
electrolyte to penetrate
throughout the active
material.

**POLYETHYLENE TUBE
SEALER**

This acid-proof plastic
sealer fits snugly into
the bottom of positive
plate tubes, sealing in
the active material for a
longer working life.

**CORROSION-RESISTANT
TRAY GUARD**

A plastic, acid-resistant
steel tray coating, with
high insulating qualities
and the ability to with-
stand hard knocks.

**NEW QUARTER TURN
PLASTIC VENT PLUGS**

Made of unbreakable
polyethylene. Can be
quickly and easily re-
moved to add water.

**EXTRA HEAVY
NEGATIVE PLATES**
to balance the new posi-
tive plates.

FORMAX SEPARATORS
Practically indestructi-
ble. Decrease internal
resistance, thus assuring
quick starting and rapid
acceleration, plus lower
operating costs.

**HOMOGENEOUS
SEALING COMPOUND**
resists shock, without
cracking, at high or low
temperatures. Forms a
permanent seal between
jar and cover.

**MOLDED SEAMLESS
SHOCK-PROOF JAR**
High quality rubber.
Sturdy . . . built for a
long life of heavy duty
service.

WRIGHT-HIBBARD

WRIGHT-HIBBARD

Announces

NEW OWNERSHIP and MANAGEMENT

Here is good news for present owners of Wright-Hibbard Industrial Electric Trucks and for those contemplating purchase of such equipment. We want the entire materials handling field to know we are now in a position to give prompt attention to quotations, orders for repair parts, service and delivery of either fork lift or high and low lift platform models.

Write for information and engineering data on Wright-Hibbard trucks and name of your local Wright-Hibbard representative.

New Life for One of the Nation's First Makers of Industrial Electric Trucks

- NEW MANAGEMENT
 - NEW PRODUCTS
- NEW PRODUCTION FACILITIES
 - NEW SALES POLICY
- NEW PARTS AND REPAIR SERVICE
 - NEW, IMPROVED DISTRIBUTION

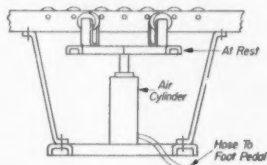
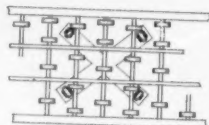
WRIGHT-HIBBARD

INDUSTRIAL ELECTRIC
TRUCK COMPANY, INC.
PHELPS, N.Y.

LETTERS to the editors

A Simple Conveyor Turntable To FLOW:

The enclosed illustration of a turntable for roll-away conveyors was devised when we found it necessary to put an extra spray coat on the edges of our product before it hit the final painting. We found it useful for many other operations, too, because it is very flexible and can be installed at any location along the conveyor.



Floor

It is connected directly to the conveyor by drilling four holes in the lower part of the conveyor channels. By pressing the foot pedal the operator raises the turntable under the product. When the operation is completed the foot pedal lowers the attachment and the product rolls on to the next station.

I have read and profited from the articles in your magazine and I sincerely hope you will find my idea interesting enough to print so that others may share in its benefits.

E. J. Anderson
Irwin Seating Company

Reader Anderson's letter and the accompanying drawing describe an excellent idea and we are happy to comply with his desire to share it with others in the pages of FLOW.



Materials Handling Men ...

Give yourself this test!

COMPARE your techniques of materials handling with those leading firms in your own field.

CHECK the chart at right, indicating operations of interest to you. Mail the chart to Rapistan and receive actual Field Reports telling just how other companies are solving those problems most profitably. See how your own methods rate by comparison.

HERE'S WHY YOU MAY BE SURPRISED

Rapistan Field Reports feature the very latest solutions to actual handling problems... solutions *tried, tested, and proved highly successful* by leading firms in every industry. In fast-reading capsule form, these reports discuss the problems as they existed; show photos, diagrams, specifications and cost of equipment installed; tell exactly what results were achieved. You may be *very* surprised to learn how much more efficient your present equipment can be, or how a single additional conveying unit can lick an entire problem for you.

If you would like further information, ask for the Rapistan catalog of power and gravity conveyors. Units, lines, or engineered systems for every operation in chart at right. Reputation of Rapistan equipment is built on flexibility, quality and value... your assurance of continuous dependable, cost-cutting performance wherever you put it to work.

If you need expert help for a specific handling problem, consult Rapistan engineers. Let them survey your operation. Their advice, like Rapistan Field Reports and catalogs, is yours for the asking... no obligation.

Rapistan®

BETTER CONVEYING EQUIPMENT

Representatives in Principal Cities

CONVEYORS • INDUSTRIAL CASTERS • WHEEL-EZY® TRUCKS

AND GET THESE!

Explicit details on most successful techniques employed by other firms in your field for the following operations:

- ☐ Controlled movement through any operation
- ☐ Conveying between machines
- ☐ Inspecting operations
- ☐ Loading, filling or sealing of containers
- ☐ Loading or unloading; truck, ship or boxcar
- ☐ Long distance package movement; inter- or intra-plant
- ☐ Movement between floors
- ☐ Movement into storage bays
- ☐ Order selecting
- ☐ Receiving operations; box, carton or bag
- ☐ Sorting operations
- ☐ Shipping operations
- ☐ Stacking; cartons, boxes or bags
- ☐ Stock transferring
- ☐ Storage; balcony or bin

NOTE: If you have a problem not listed here, please describe it. There are many other Rapistan Field Reports to help you.

Please check your business classification:

☐ Manufacturing ☐ Agricultural ☐ Wholesale ☐ Retail

The RAPIDS-STANDARD COMPANY, Inc.
48 Rapistan Building, Grand Rapids 2, Mich.

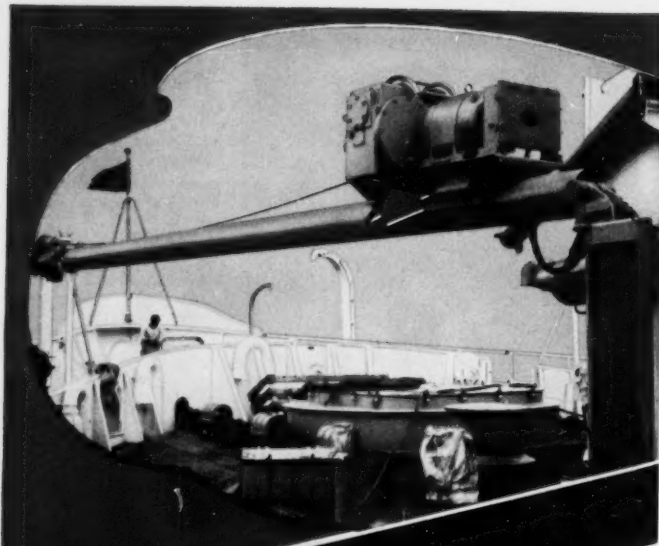
NAME _____

COMPANY NAME _____

STREET ADDRESS _____

CITY _____ ZONE _____ STATE _____

Circle No. 58 on Reader Service Card for more information



Compact power for winches & hoists ... with Cone-Drive Gears



Standard double-enveloping Cone-Drive gears and 10 Meshes have greater contact for tooth, more teeth in contact, increased load capacity, greater shock load capacity, longer life, lighter weight and lower overall cost.

Ask for Cone-Drive Gears, Winches or Hoists, Materials, Literature, Bulletin (200-32) for more information.

Designed and built by Lake Shore Engineering Company of Iron Mountain, Michigan, this boom-mounted cargo winch is operated by Cone-Drive gears. Advantages include: ability to take shock loads, long-life, dependability, and unusual compactness.

Although a 20:1 ratio Cone-Drive gearset of only 7-inch center distance is used, this compact gearing provides a 27.7 mechanical horsepower rating at 1150 worm r.p.m.

No wonder leading producers of hoists and winches are turning more and more to standard Cone-Drive double-enveloping gears.



CONE-DRIVE GEARS

DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS

Division Michigan Tool Company
7171 E. McNichols Road - Detroit 12, Michigan

LETTERS

Continued

Needed—A Better Way

To FLOW:

Our operation consists of the packaging of small parts—nuts, bolts, screws, etc.—which are transferred from kegs into small boxes of 100 pieces. The only aid we employ is the use of scales, and we realize the need for much better equipment for sorting the parts and filling the boxes. Can you give us leads as to possible manufacturers of equipment suited to our operation?

L. Gaines
Curtis Industries

How to get small products into almost equally small containers has always been a problem for manufacturers. While we frankly do not know of any machinery built specifically for this task, perhaps some of our readers can inform us and reader Gaines how they handle this problem efficiently.

Drums On The Move

To FLOW:

We are considering the purchase of roller conveyor track for installation on the floor of our plant so that drums of our liquid product can be placed on a "rolling stock" basis. Our product is manufactured and packaged here in 55, 30, 15 and 5 gallon drums.

It has occurred to us that before we purchase anything, we might conduct a search for a motorized moving track or something more suitable. Not being familiar with materials handling equipment, we felt that you might direct us to such sources.

William D. Williams
National Laboratories, Inc.

From the brief description of the operation provided in reader William's letter, we believe the roller conveyor is his best bet. We have asked that he furnish more detailed information, however, before we advise him further. A copy of the FLOW DIRECTORY, which Mr. Williams ordered at the same time has been sent him.

Circle No. 104 on Reader Service Card for more information

■ Baker 6000-lb. Fork Truck
stacks Ford engine blocks
in temporary storage. Next
move is to engine plant.

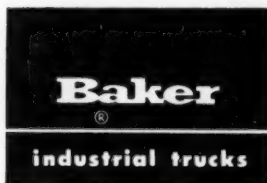


New Ford Foundry speeds handling with **BAKER TRUCKS**

■ A sizeable fleet of Baker 6000-lb. capacity Fork Trucks helps maintain the production pace in the new Cleveland Ford foundry. The trucks are of the "FT" type, designed for 100% functional, efficient, safe, low-maintenance operation. They are used interchangeably on a wide variety of jobs, moving many materials that cannot be piped, conveyed or transported by other automatic methods. Most such materials are palletized for fork-truck handling.

They unload incoming bulk materials such as sea

coal, bond, drums of oil and other liquids, tier them in storage or in areas near their points of use. They haul supplies to metal and molding departments and to other production operations. They haul finished products from ends of production lines to scales for weighing, and then to storage. Palletized engine blocks are taken from conveyors to temporary storage awaiting transfer to adjacent engine plant. They load cast flywheels onto highway carriers for shipment to the Ford Rouge plant.



write for

your copy of the "Baker Handling Library", a portfolio of case histories showing actual cost savings in foundries and other plants.

THE BAKER-RAULANG COMPANY
1219 WEST 80th STREET • CLEVELAND 2, OHIO

*The Baker-Lull Corporation • Subsidiary, Minneapolis, Minn.
Material Handling and Construction Equipment*

Circle No. 4 on Reader Service Card for more information

NOW! GOODYEAR ANNOUNCES A LINE OF PNEUMATIC INDUSTRIAL TIRES

FOR WIDE BASE (Super Width) RIMS



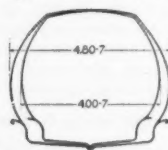
GOODYEAR WIDE BASE TIRES
OFFER

8 GREAT ADVANTAGES

- Wider, flatter tread—longer wear
- Lower cost per mile
- Low rolling resistance
- Improved appearance
- Greater cross-section—more air volume
- Increased flotation because of its extra cushioning
- Greater stability
- Easier steering

GOODYEAR offers you a complete line of Pneumatic Industrial Tires to fit the new Wide Base (Super Width) Rims. For complete information contact the Goodyear dealer nearest you. He will be happy to show you how these tires can meet your particular needs—cut your operating costs. Or, if you prefer, write to Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Here are the sizes of Goodyear tires that fit the new Wide Base Rims. Note, for example, in the new size marking, the 400 x 7 is now marked 480/400 x 7.



280/250 x 4
340/300 x 5
340/300 x 7
410/350 x 6
480/400 x 7
480/400 x 8
530/450 x 7
570/500 x 8

GOODYEAR

INDUSTRIAL TIRES

Circle No. 28 on Reader Service Card for more information

MEMO:
TO PLANT ENGINEERS!

*For your next
plant managers
conference!*

RADIO in case of FIRE!



Invite The G-E CAS* Man To Call!

Take advantage of General Electric experience in industrial radio communication! Call our local office today or write: General Electric Company, Section 3243 Electronics Park, Syracuse, New York.

*Communications Advisory Service

G-E RADIO GIVES INSTANT CONTACT— AVERTS DISASTER!

EQUIP your trucks with radio and your plant gains not only the primary advantage of doubling present production rates but you've added, in effect, an efficient fire protection system at *amazingly low cost*. Pick General Electric 2-way radio for this job and you get the plus benefits of communications equipment designed for industrial applications.

It will pay you to investigate G-E 2-way radio. Famous for outstanding performance . . . rugged construction . . . and exceptionally low maintenance requirements . . . General Electric experience in the industrial communication field gives you that built-in quality that assures satisfaction!

GENERAL  **ELECTRIC**

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"I sure
feel
SHEEPISH"

... for NOT buying those **TOUGHER**
BUFFALO *Conveyor* **BELTS**"

"You know how a fellow feels when he's made a bum deal? That's how I feel now because I bought what I thought was a 'bargain' belt and it just went 'phooey' on us the other day. And . . . to make matters worse, the Buffalo Belts we bought years ago are still going strong."

They're made **TOUGHER!** Buffalo Conveyor Belts are made from the toughest cotton yarn available on the market. They're woven **TIGHTER** by our exclusive *Wov-In-Wear* weaving process on our own specially-designed looms. They last **LONGER!** Tougher yarns and tighter weaving naturally mean *longer life* for any Conveyor Belt. However, you never pay a premium for any Buffalo Conveyor Belt . . . just the regular established price! Yet users tell us they last years *longer*. Ask your mill supply man to show you the difference!



OVER
500 SIZES
35 WIDTHS
7 THICKNESSES

**If you need a TOUGH,
WATER PROOF BELT**

we recommend RF&C

Ideal for outdoor or wet conveying jobs, Buffalo Rubber Filled and Covered Belting is highly resistant to wear and water. Tough and long lived, this is the economical belt to use where the going is rough.

Write for
FREE FOLDER

14 pages of sizes, types and prices



BUFFALO WEAVING & BELTING COMPANY

209 CHANDLER STREET

BUFFALO 7, NEW YORK

NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

Circle No. 7 on Reader Service Card for more information

**association
and society
NEWS**

• **Who's Who in Industry**—the five past presidents of the Material Handling Institute, the men who contributed immeasurably to the building of the organization, gather to congratulate Howard M. Palmer and present him with the 1953 gavel.



Standing, left to right: J. H. W. Conklin, general sales manager, Yale & Towne Mfg. Co.; S. K. Towson, president, Elwell-Parker Electric Co.; S. W. Gibbs, vice-president, C & D Batteries, Inc. Sitting, left to right: L. West Shea, sales manager, Union Metal Mfg. Co.; H. M. Palmer, general sales manager, Lewis-Shepard Products, Inc.; and J. G. Bucuss, president, Acme Steel Co.

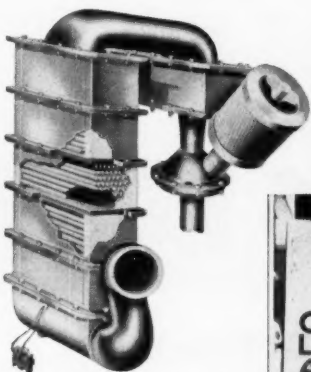
• Frank L. Robinson, president of the Frank L. Robinson Co., Oakland, Calif., has been officially appointed a member of the materials handling and handling costs committee of the National American Institute of Industrial Engineers. This committee deals with the study of proper equipment, methods, systems and the training of personnel to bring about reduced handling costs.



F. L. Robinson

(Continued on page 147)

ELIMINATE CARBON MONOXIDE, FUMES AND ODORS FROM LIFT TRUCKS



OCM CATALYTIC EXHAUST

(A Houdry Catalyst Development)

Reduces CO to a safe level

and any other types of
gasoline-powered equipment



The OCM CATALYTIC EXHAUST replaces the original muffler without changing clearances . . . and is easy to install.

★ Kills all fumes and odors from exhaust gases of internal combustion engines using white gasoline.

★ Assures absolute safety for employees, and increases efficiency.

★ Makes possible the operation of gasoline-powered equipment anywhere, thus reducing costs.

★ Simple, sturdy construction, rupture-proof under explosion.

★ Gives 2000-2500 trouble-free hours of operation, after which catalyst is quickly replaceable . . . and at low cost.

★ Tested and listed by Underwriters Laboratories, Inc., and used in many of the nation's leading industrial plants.

Be sure to visit
Booth 922

THE **5**TH
MATERIALS HANDLING
EXPOSITION
Convention Hall
Philadelphia, Pa.
May 18-22

Write for detailed information and specifications to

OXY-CATALYST, INC.

WAYNE, PA.



NOTE. This company also makes catalysts for air-pollution control, power and energy, and waste heat recovery for industrial operations ranging from metal coating to oil refining. Write for details.

THIS IS IT!

RAYMOND

Reach-Fork
TRADE MARK

THE TRUCK WITH THE
"BOARDING HOUSE"

**Another Great Truck From the Firm that
3 Years Ago Made 6-ft. Aisles a Reality!**



1. Reach-Fork enters pallet . . .



2. picks up load . . .



3. retracts load . . .



4. lowers load for travel!

● **STACKS PALLETS CLOSELY**—no space needed between pallet loads for base forks. Ideal for loading and unloading motor trucks and boxcars or for rack storage.

● **TIERS FROM 6-FT AISLES** in any warehouse thanks to Reach-Forks, short length and patented** off-set drive wheel with 200° turning arc.

● **LIGHTER WEIGHT** because it has no counterweight, features balanced design, 10 x 5 load-ease wheels. Operates on low-capacity elevators and floors, over-the-road trailers and freight cars. Less floor and wheel wear.

● **DOUBLES YOUR STORAGE** by trimming 4 to 6 ft. off conventional tiering truck aisles.

● **51" FREE LIFT** enables loads to be elevated in low-ceiling areas, boxcars, truck trailers without increasing truck's overall height.

● **USES STANDARD 12 V. BATTERY** that slides in or out on built-in rollers for fast, easy changing.

● **NO SLOWDOWNS** on uneven floors, door sills, dock boards, thanks to patented** knee-action swivel casters and large 10 x 5 load wheels. Has 4-point suspension at all times.

Visit Booths No. 1426 and 1525 at the

HANDLES ANY SIZE PALLET

One truck handles pallets of any size without any changes in the truck.

REACH*



Imagine it...

... a Reach-Fork Truck* that permits close-quarter operation in your warehouse right now! Only the RAYMOND Reach-Fork performs this modern space-making miracle. Because only the Reach-Fork has "boarding-house reach". Its retractable forks reach right out to pick up or deposit your load. RAYMOND's Reach-Fork goes out 24" and back in seconds. No need to change your existing rack setup.

*PATENT PENDING

**PATENT NO. 2,564,002



**ELECTRIC INDUSTRIAL TRUCKS
HYDRAULIC ELEVATING EQUIPMENT**

MODEL E2RT
Capacity 2,000 lbs.

Mail This Coupon

Learn how RAYMOND's Reach-Fork can produce dollar-and-space savings right in your own warehouse. Send for Bulletin now!

The RAYMOND CORPORATION
3311 Madison St., Greene, N.Y.

Please send me Bulletin describing your new RAYMOND Reach-Fork.

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ STATE _____

5th Materials Handling Exposition at Philadelphia

Circle No. 143 on Reader Service Card for more information

FLOW • APRIL, 1953

NEWS VIEWS TRENDS

WHEEL COMMITTEE STUDIES STANDARDS

The Industrial Wheel Standardization Task Committee is preparing to develop proposed standards for steel and plastic wheels, and the subject will be discussed at a meeting to be held in Chicago on April 22. This committee, of which W. J. Daugherty of Firestone Industrial Products Company is chairman, has already made considerable progress in developing proposed standards for cured-on wheels.

WHITING MOVES SALES OFFICE

Whiting Corporation has moved its St. Louis sales office from 3238 Olive St., St. Louis, to 567 North and South Road, University City 5, Mo. F. P. Walsh, manager, is assisted by Harold Schaill and Felix Mackiewicz. The St. Louis office territory includes Missouri, Arkansas, Kansas, Oklahoma and southern Illinois.

CARNEGIE TECH GETS ALCOA GRANT

A new professorship in mechanical engineering has been established at Carnegie Institute of Technology through a grant from the Aluminum Company of America, it was announced by Carnegie President J. C. Warner and I. W. Wilson, president of ALCOA. The new grant is in addition to the endowed Aluminum Company of America Professorship of Light Metals and the graduate fellowship established at Carnegie by ALCOA some time ago.

20,000 EXPECTED AT PACKAGING EXPO

An attendance of 20,000 is expected at the American Management Association's 22nd National Packaging Exposition in Chicago, according to association spokesmen. More than 350 exhibitors, occupying a total of 130,000 square feet of display area, will take up both north and south wings of Navy Pier during the four-day exposition, April 20-23. The association's annual Packaging Conference will be held concurrently with the exposition, also at Navy Pier, starting April 20 and ending April 22.

GOULD TO OPEN PLANT NO. 21

The Industrial Division of Gould-National Batteries, Inc. soon will start production in a new \$3,000,000 factory at Kankakee, Ill. This plant, the company's 21st in the United States and Canada, adds nearly five acres of floor space to the company's productive capacity, and will provide better and prompter service for industrial users of batteries in the middle west.

U. S. BUYERS INVITED TO BRITISH FAIR

Firms exhibiting in the heavy industry section at the British Industries Fair this spring will welcome U. S. buyers to their displays. Many are now selling their products in the United States, and all will be showing new items on their stands at Castle Bromwich, Birmingham (England) between April 27 and May 8.

GOOD TIRES help make
good lift trucks **BETTER**



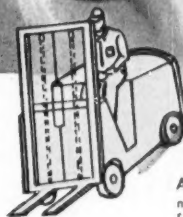
**MONARCH MAKES THE
COMPLETE LINE OF
SOLID INDUSTRIAL TIRES**

ORDER MONARCHS FROM YOUR TRUCK SERVICE MAN



**THE
MONARCH
RUBBER COMPANY**

550 LINCOLN PARK • HARTVILLE, OHIO



Ask about Monarch's
new efficiency tire
for electrics.

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

Circle No. 137 on Reader Service Card for more information

NEWS, VIEWS, TRENDS

Continued

FORK TRUCK SHOW HITS THE ROAD

The Yale & Towne Manufacturing Company's material handling circus is now traveling through the South on its 25,000-mile tour, a pioneer move by heavy industrial equipment makers in take-it-to-the-customer merchandising. It will be in Philadelphia for the Fifth National Materials Handling Show next month. In discussing the show, Elmer F. Twyman, vice president of Yale & Towne, said, "There is a compelling need of bringing modern materials handling experience to thousands of businesses and hundreds of communities that are not yet fully aware of the labor-aiding, cost-saving functions such equipment contributes.

G. E. ANNOUNCES MOTOR SERVICE PLAN

A program to provide prompt service on inoperative electric motors has been announced by W. D. Lee of the General Electric Small and Medium Motor Department. Called the Small Motor Service Station Plan, the program is expected to improve previous exchange plans by providing a more complete network of repair stations for fractional horsepower and small integral horsepower motors.

KORNYLAK ADDITIONS READY

New facilities of Kornylak Engineering Corporation have been completed at 513-521 Communipaw Avenue, Jersey City. The additions include new offices and engineering department, and a large show room for the demonstration of standard items. Warehouse space has been enlarged, and manufacturing facilities for the production of special conveyors, cranes, trucks, etc., have been tripled.

GOODYEAR MARKS 40th YEAR

The 40th anniversary of the Mechanical Goods Division of The Goodyear Tire and Rubber Co. was passed recently. Starting in 1913 with four products: balata belting, horseshoe pads, rubber tiling and soles and heels, this division of the company now produces 20 major categories of products in the industrial rubber goods field with more than 20,000 different specifications for manufacture. Greatest popular achievements of Goodyear's Mechanical Goods Division have been made with conveyor belts, with the world's longest conveyor belt system built by Goodyear at Shasta Dam.

STONE CONTAINER BUYS ARTKRAFT PAPER

Stone Container Corporation has purchased the corrugated box plant of Artkraft Paper Products Corporation in Pittsburgh, it was announced by Norman H. Stone, president. Stone said the purchase was made to give better service to Stone Container's customers in the Pittsburgh area. Located almost midway between the firm's container divisions in Philadelphia and Mansfield, Ohio, the new plant is Stone Container's fourth container division.

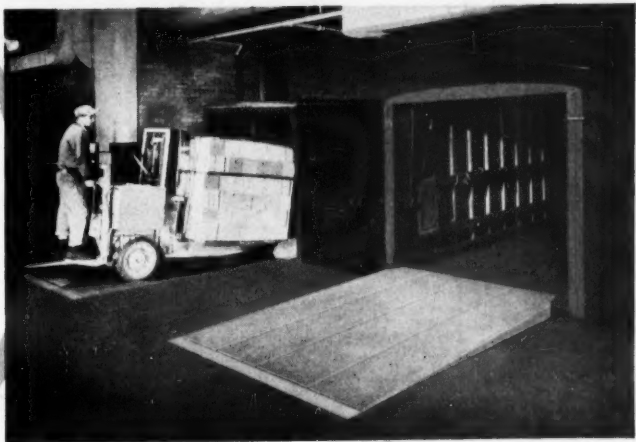
EFFICIENCY AT LINK-BELT

Manufacture of custom-designed conveyor and processing machinery has been put on a straight-line production basis in the new 300,000-square foot Link-Belt plant at Colmar, Pa. The Colmar plant, Link-Belt's 17th, is of modern design, with large, uncrowded work areas. It combines straight-line production with utmost flexibility. Receiving and shipping areas are designed for efficient movement of truck and rail shipments.

You asked for it! Rotary's **NEW** Leva-Dock

ADJUSTABLE HYDRAULIC RAMP FOR LOADING DOCKS

Low Cost
Simple Installation
Easy Maintenance
Assured Safety
4-way Leveling

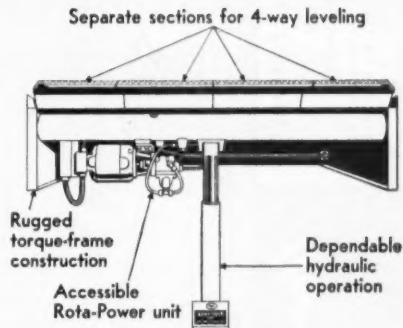


■ **Faster, Safer Loading**—Hundreds of material handling men were interviewed, thousands of loading docks checked before the new LEVA-DOCK was designed and engineered. It's Rotary's practical, economical answer to the loading dock problem.

This new automatic ramp compensates 4 ways for varying truck bed heights, out-of-level trucks, and truck spring deflection. Power trucks move quickly, safely in and out of trucks or trailers. A new automatic safety device prevents accidents and costly delays.

The Leva-Dock is a rugged, self-contained unit with oil reservoir mounted in torque-tube frame. All piping and wiring done at the factory except power leads and control wires. Installation costs are cut to the bone.

Mail the coupon and we'll show you how to make big savings at your loading dock.



Rotary
LEVA-DOCK

MAIL FOR COMPLETE DATA
 Rotary Lift Co., 1042 Kentucky, Memphis 2, Tenn.
 Send information on the LEVA-DOCK to:

Name.....

Address.....

See our exhibit at Materials Handling Exposition
 May 18-22—Philadelphia

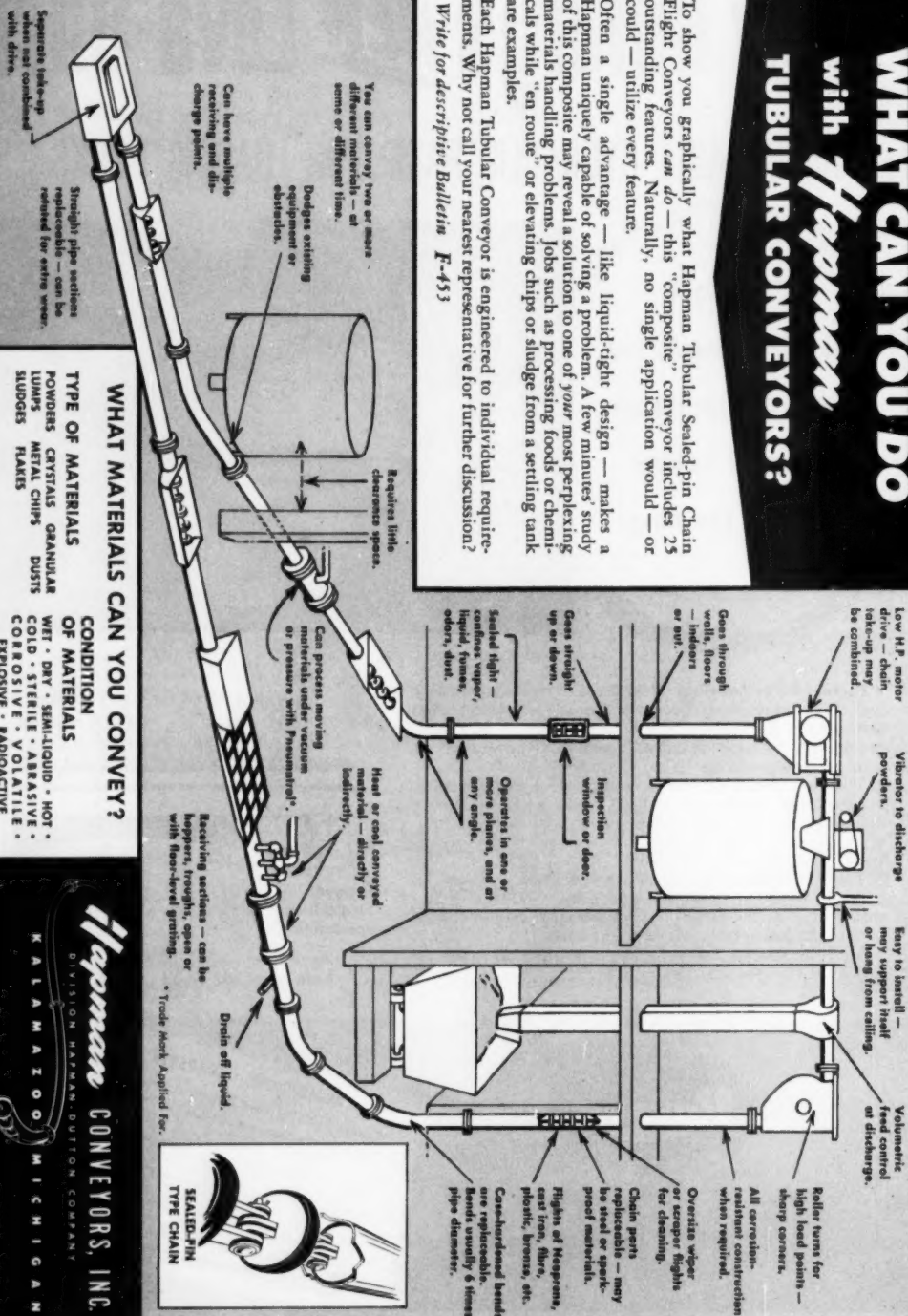
WHAT CAN YOU DO with *Hapman* TUBULAR CONVEYORS?

To show you graphically what Hapman Tubular Scaled-pin Chain Flight Conveyors *can do* — this "composite" conveyor includes 25 outstanding features. Naturally, no single application would — or could — utilize every feature.

Often a single advantage — like liquid-tight design — makes a Hapman uniquely capable of solving a problem. A few minutes' study of this composite may reveal a solution to one of *your* most perplexing materials handling problems. Jobs such as processing foods or chemicals while "en route" or elevating chips or sludge from a settling tank are examples.

Each Hapman Tubular Conveyor is engineered to individual requirements. Why not call your nearest representative for further discussion?

Write for descriptive Bulletin F-453



WHAT MATERIALS CAN YOU CONVEY?

TYPE OF MATERIALS	CONDITION OF MATERIALS
POWDERS	WET • DRY • SEMI-LIQUID • HOT •
CRYSTALS	COLD • STERILE • ABRASIVE •
METAL CHIPS	CORROSIVE • VOLATILE •
DUSTS	EXPLOSIVE • RADIOACTIVE
SLUDGES	
FLAKES	

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

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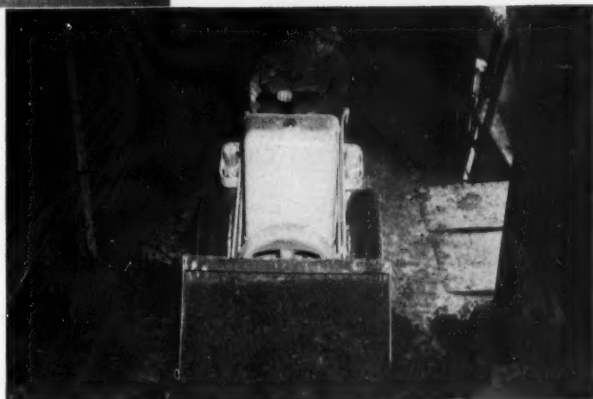
FLOW • APRIL, 1953



IN BINS

**or
BOXCARS**

PAYLOADERS



Blast Bulk Handling Costs

Scoop-up? Carry? Dump? Spread? Load? Pile? Pour? . . . "PAYLOADER" tractor-shovels will do all of these bulk material handling jobs for you and many more . . . up to three tons at a time . . . travel at speeds up to 28 miles per hour . . . work inside buildings or outside on pavement or ground.

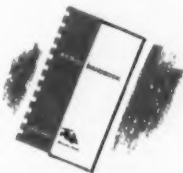
"PAYLOADERS" bring a combination of speed, low cost, flexibility and versatility to your bulk-handling problems unmatched by any other type of equipment. Thousands of "PAYLOADER" installations in all kinds of plants and situations have accomplished tremen-

dous cost reductions through savings in time and labor and through increased production.

Our broad experience, plus that of your Hough Distributor, is available to help solve your bulk material handling problems, and without obligation. The Frank G. Hough Co., 731 Sunnyside Ave., Libertyville, Ill.

FREE HANDBOOK

Tells how and where to look for signs of inefficient bulk materials handling . . . how to analyze, organize and set up an efficient handling system. Plus many useful tables and data. Write for "Bulk Materials Handbook."

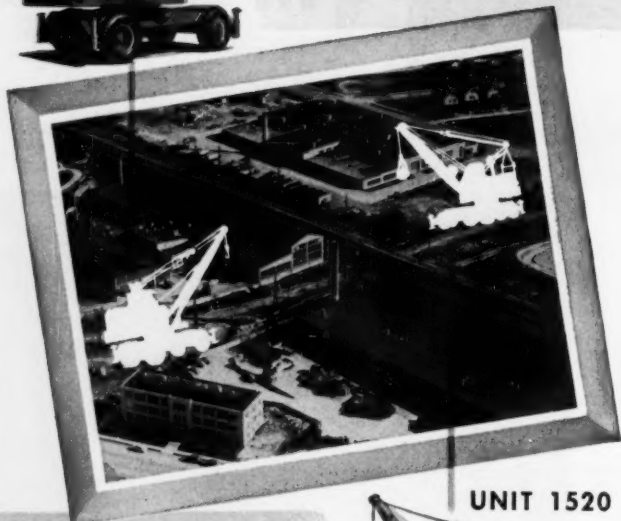


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UNIT 357



UNIT Self-Propelled Mobile Crane



**Fits into Any
INDUSTRIAL
PICTURE!**



UNIT 1520

You'll find a UNIT Mobile Crane is just the machine you need for the many material handling jobs around your plant. It's self-propelled, rides on rubber, travels anywhere. It has 1001 uses, in and out of yard. Works efficiently even in small yards where space is limited. Controlled and operated by ONE man. Powered by ONE engine. Balanced weight distribution in upper structure adds full-length stability to undercarriage. Provides full-circle, fast-cycle operation. Easy hydraulic steering. Streamlined, FULL-VISION Cab gives operator complete visibility in ALL directions. Promotes safety. Investigate these Mobile Units!

UNIT 357 — Versatile, compact, lightweight Mobile Crane, ideal for your yard lifting and loading jobs. The smoothest operating and easiest handling crane on the market. Mounted on 6 pneumatic tires, duals on rear. Capacity 10 tons. Ask for Catalog L-301.

UNIT 1520 — Heavy-duty, self-propelled Mobile Crane — another UNIT advancement in modern, high-speed, rubber-tired equipment. Lifting capacity up to 20 tons. Mounted on 12 pneumatic tires, with duals on steering axle and tandem rear axles. Ample power for the toughest jobs. Ask for Catalog 502.

UNIT CRANE & SHOVEL CORP., 6531 W. Burnham St., Milwaukee 14, Wis., U.S.A.

Crawler and Mobile
models — ½ and ¾ Yd.
Excavators. Cranes up to
20 tons capacity.



SHOVELS • DRAGLINES • CLAMWHEELS • GRABBERS • TRENCHERS • MAGNETS

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HIGHLIGHTS
of the month's
NEWS

IT'S heartening to note that the Caster & Floor Truck Manufacturer's Association is conducting an equipment standardization program. This ambitious project was launched to standardize and simplify part sizes, descriptions, capacities and applications of manual material handling equipment, casters and wheels.

Looking at standards from an economy and efficiency standpoint, there is little question of their value. It's obvious that greater interchangeability and use of standard specifications are economical.

And certainly considerable importance is the fact that the user benefits through concentration on a reduced variety of products.

When you stop and think about the enormity of this undertaking, it's somewhat more than staggering. Habits are hard to change, for one thing. Changes in design may mean expensive retooling for manufacturers.

The Association already has formed six product standardization task committees. Each of the committees is specifically concerned with one of the following: two-wheel trucks, platform trucks, trailers, skids, wheels and casters.

Each committee will prepare a standard nomenclature, prepare a classification and description of the product types, and recommend standard sizes, capacities, applications and standard testing procedures.

That is just the beginning. These recommended standards will then be submitted to user groups, non-member manufacturers and interested government agencies. If users and industry will agree to these standards, they probably will be submitted for review to the American Standards Association.

It's a job that needs doing, and to the Association we say, "Good luck."

Announcing MULT-A-FRAME

**World's only fully-locking
steel framing material**

...by Ainsworth!

MULT-A-FRAME, amazing new fully-locking steel framing material with 1000 and ONE uses, lets you frame, hang or support anything faster, easier, at low cost!

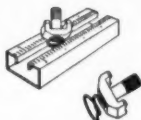
No welding, drilling, special tools or skills are needed. **MULT-A-FRAME** saves planning time, floor space, man-hours, insurance costs in every field . . . assemblies and reassembles by standard hand wrench.

Get skyscraper strength without bulk for racks, supports, scaffolds, platforms, hangers, inserts, rigs, cribs, mobile parts carriers, etc. No scrapping . . . **MULT-A-FRAME** can be used over and over again. A wide variety of fittings is available to fit any job.

See how **MULT-A-FRAME** can answer your needs. Authorized distributors in principal cities provide engineering service and prompt delivery from warehouse stocks. Write, wire or phone now for FREE samples and catalog, Dept. 103, **MULT-A-FRAME DIVISION**, Ainsworth Manufacturing Corporation, 2200 Franklin Street, Detroit 7, Michigan.

3 basic parts

... 3 easy steps

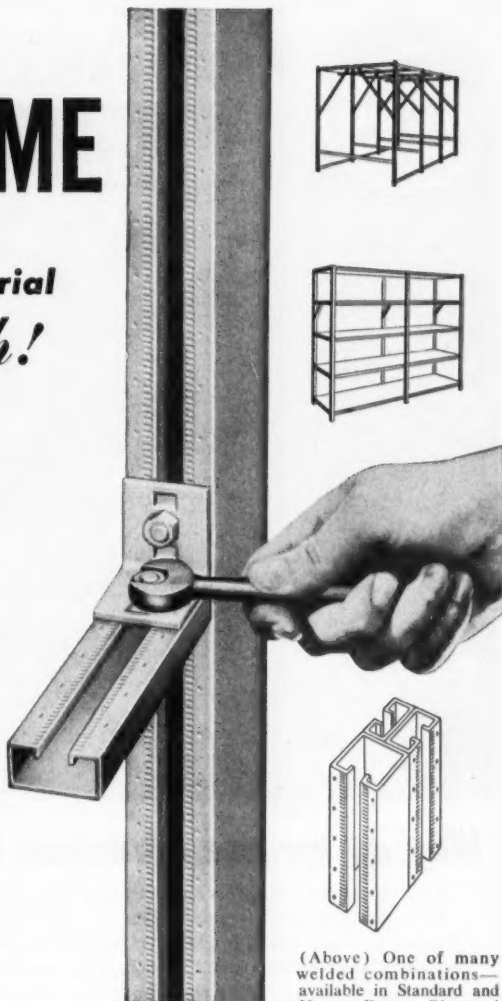


1. Push Spring-T-Bolt into Channel Frame slot anywhere along frame. Give it a one-quarter turn. Long bolt stem easily held.

2. Locate Spring-T-Bolt at desired position and release. Contact points are forced into serrations holding T-Bolt in place.



3. Attach Safe-Locking Fitting and tighten nut. Nubs on Fitting "key" into Channel Slot and prevent rotating about bolt.



(Above) One of many welded combinations—available in Standard and Heavy-Duty Channel Frames for every purpose.



*Trade-mark
Patents Pending.

HOME OF MULT-A-FRAME

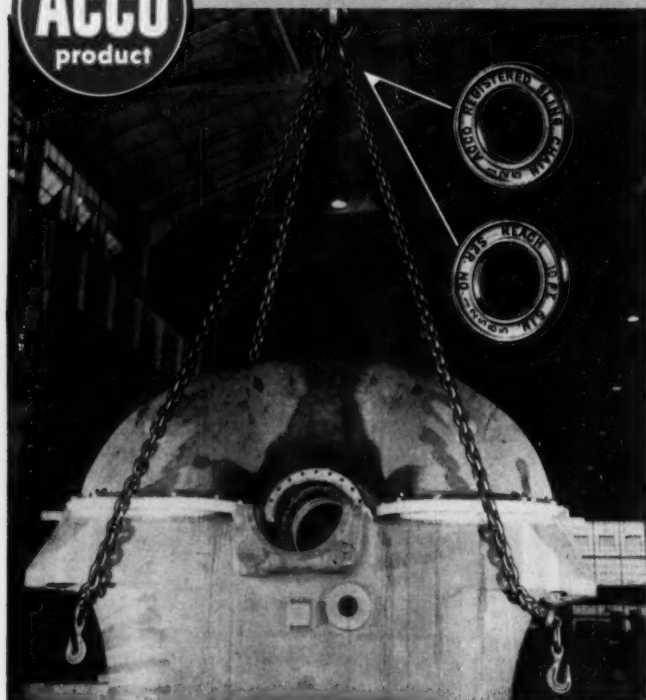
MULT-A-FRAME DIVISION

2200 Franklin Street, Detroit 7, Michigan

*Ainsworth
Manufacturing Corporation*



AMERICAN CHAIN



"Why do we use American Chain?"

"For two reasons," said this manufacturer of heavy machinery. "First, we have used American Chain successfully for years. Second, the high strength alloy it is made from permits using smaller diameter chain which is hooked up easily by our men. And the men like the way the grab hooks slip over the links and set themselves securely. I think they just feel safer working with American Chain."

This AMERICAN CHAIN user is referring to our 125 Endweldur alloy steel, heat-treated ACCO Registered sling chain with our series 40 drop-forged grab hooks.

No matter what chains you require, AMERICAN has them and will furnish chains that will last longer... and cost less to use. Call your AMERICAN CHAIN distributor today and let him make recommendations. Or write to our York office for Bulletin DH-314.

ACCO



AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles,
New York, Philadelphia, Pittsburgh, Portland,
San Francisco, Bridgeport, Conn.

**American
Chain**

Circle No. 2 on Reader Service Card for more information

news from the
SALES FIELD

Robco, Inc., supplying "specialized equipment for industry," is a new firm which began operations January 1 as an outgrowth of the Robert H. Braun Co. of Los Angeles. Located at 4557 East Slauson Ave. in Maywood, Calif., Robco is an exclusive distributor for Aerol casters and wheels, in addition to which they will carry numerous lines of materials handling equipment of all categories.



D. S. Ferguson

President of the company is Don S. Ferguson, who also



maintains his position of secretary-treasurer of the Robert H. Braun Co. William Gaskil, formerly manager of specialized items department for the Braun organization, is vice president and general manager of the new company.

Mechanical Handling Systems, Inc. has appointed several new exclusive distributors, according to S. C. Lloyd, sales manager for the division. They include Thom-Berglund Co., Portland, Ore.; Shamrock Construction Co., New Orleans, La.; N. J. Reinhold, Cincinnati, Ohio; R. W. Meredith Co., St. Louis, Mo.; The Lilly Co., Memphis, Tenn.; Industrial Power Equipment Co., Kansas City, Mo.; John Gilliam Equip-

ment Co., Dallas, Tex., and L. E. Laidlaw Co., Indianapolis, Ind. All firms will maintain adequate stocks to assure fast delivery.

Edward I. Knorring, formerly with Mayer & Oswald manufacturers' representatives, has opened his own agency to be known as **E. I. Knorring & Co.** Location of the new firm is at 7500 West Belmont Ave., Chicago. Among the manufacturers he will represent will be the Metzgar Co. and Globe Hoist Co.



E. I. Knorring Belmont Ave., Chicago. Among the manufacturers he will represent will be the Metzgar Co. and Globe Hoist Co.

The Buda Co. has announced the establishment of **Lift Truck Service Co.**, 4400 So. Archer Ave., Chicago, as its exclusive distributor in northern Illinois and northwestern Indiana. The company will provide service and repairs on all Buda equipment, including Diesel and gasoline engines.

P. A. Burns has been appointed district sales manager of **Hewitt-Robins Inc.** in Cleveland. He will be responsible for sales of industrial rubber products and conveyor machinery in Ohio, Michigan, Indiana and Kentucky. Burns has been with the company since 1941.

A consolidated sales office service Texas and the southwest has been opened in Dallas by the **International Paper Co.**, according to **Richard C. Doane**, vice president and general manager. The new offices are located at 1511 Bryan St. While several divisions of International Paper will be represented there, it was revealed that **H. T. Patton**, would handle Texas sales for the Bagpak division, producers of multi-wall shipping sacks.

(Continued on page 94)



an Original Idea Plus a Wright Speedway Hoist

• Here's a convenient method of material handling used by **P. R. Hoffman Company** of Carlisle, Pa. The **WRIGHT 1-ton Speedway Hoist** with trolley is on the second floor. The long-lift lets it raise or lower loads from ground level or basement. Electrical current is carried safely by overhead bus and a flexible remote control unit makes the hoist safe and easy to operate.

This is only one of innumerable ways you can use **WRIGHT Hoists** to speed the flow of material in your plant. **WRIGHT** makes electric hoists in sizes from $\frac{1}{4}$ to 10 tons; hand hoists from $\frac{1}{4}$ to 50 tons. They are modern in every respect, designed for modern material handling. They will give long, economical service. They will save you money.

Write today to our
York, Pennsylvania, office for literature
on **WRIGHT Speedway electric** or
WRIGHT Safeway hand hoists

ACCO



**WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE**

York, Pa., Chicago, Denver, Detroit, Los Angeles, New York,
Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

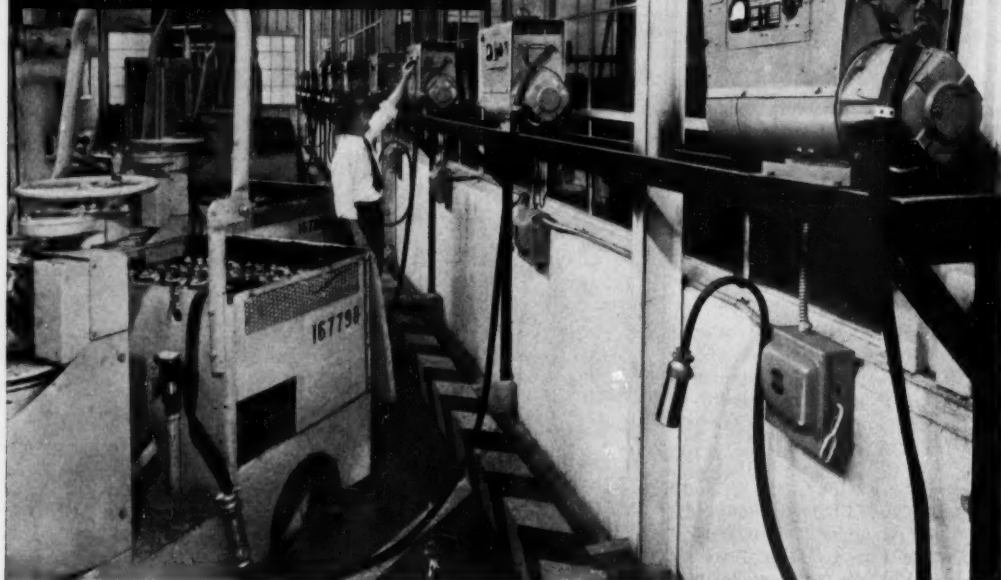
WRIGHT

**Hoists
Trolleys
Cranes**

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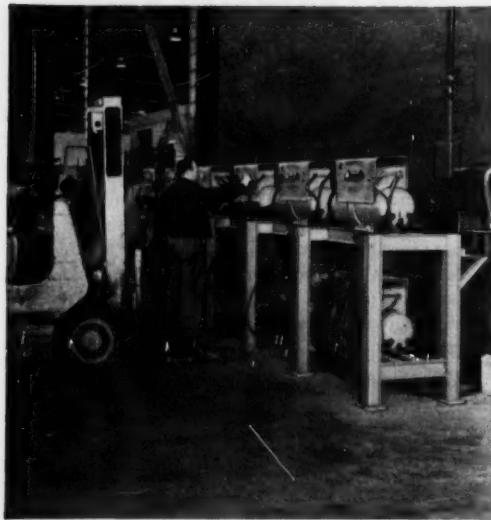
ENGINEERING REPORTS:



ROTATING-TYPE chargers made by General Electric are adaptable to driver-ride truck batteries of both lead-acid type (6 to 24 cells) and nickel-iron-alkaline type (10 to 32 cells). Light-

weight and compact, they can be mounted on balconies or other supporting surfaces (as with this group of eleven in a San Francisco plant), or stacked in tiers to save space.

Correct charger application helps

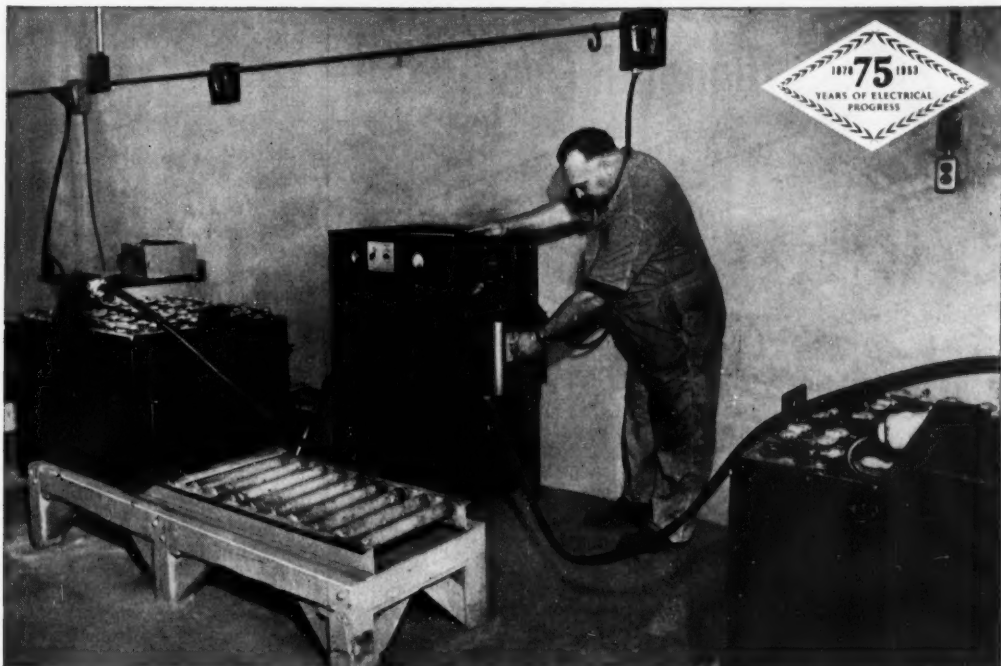


FULLY AUTOMATIC rotating-type G-E chargers are easy to operate. Plug in charger, set timer, and automatic control does the rest, shutting down unit when battery is fully charged.



VERSATILE rectifier-type G-E chargers can be adjusted for charging different types of truck batteries, and are fully automatic. Both high and low rates can be adjusted over wide ranges.

Circle No. 118 on Reader Service Card for more information



RECTIFIER-TYPE G-E chargers for lead-acid or nickel-alkaline batteries in driver-ride or driver-lead trucks need no special foundation and are easy to install. Since they occupy very

little space, they can even be located in truck working areas, as in this New York food plant. This permits "on-the-spot" charging, lets you get more working time from your trucks.

maintain production continuity

**Selection of the right G-E charger—for the correct plant location—
assures top performance of your electric trucks**

When batteries are properly charged, your electric trucks keep rolling, materials move fast, and production goes up. But proper charging means selecting the right charging equipment for *your* particular needs. That choice is made easier by General Electric's complete line of rotating and rectifier chargers—backed by skilled G-E application help.

Whether your chargers are to be centrally grouped or spotted throughout your plant—for large fleet needs or smaller operations—the equipment you get from G.E. (1) does the job economically and dependably, (2) is the right equipment for your needs, (3) is more efficiently used because of the recommendations that

accompany it. When you plan for new charging equipment, be sure to contact your G-E Apparatus Sales Representative. General Electric Company, Schenectady 5, N. Y. 669-6

FREE MANUAL ON MATERIALS HANDLING

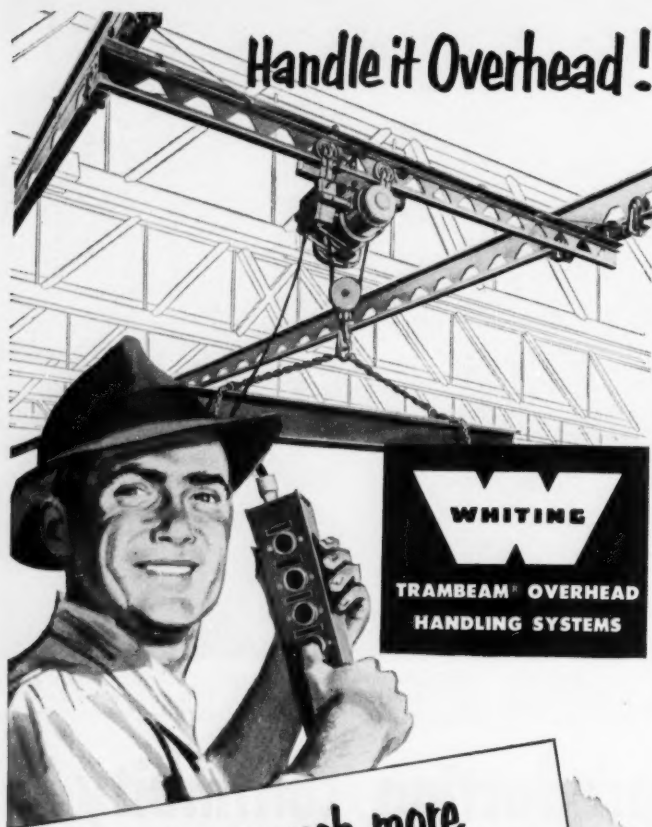


For your copy of the manual "Materials Handling," part of G.E.'s "More Power to America" program, write on your letterhead for Bulletin GEA-4962. To see the accompanying film, ask your equipment supplier or G-E Apparatus Sales representative.

Engineered Electrical Systems for Materials Handling

Conveyor drives • Crane drives • Hoist drives • Industrial truck drives and battery chargers

GENERAL  ELECTRIC



Handle it Overhead!

See how much more WHITING offers!

- ✓ **Increased Plant Capacity**—Whiting's multi-industry experience can help you get all the benefits of overhead handling. Whiting Trambeam makes building investment cost less . . . gives you more room for production, storage, assembly and shipping!
- ✓ **Lower Costs**—Whiting Trambeam is "tailor-made" for you from standard components. Use it alone or use it with other handling equipment.
- ✓ **Flexibility**—Crane or monorail—or both! Whether you want fast point-to-point transport or complete area coverage, Whiting Trambeam provides the important advantage of flexibility!

Other Whiting materials handling equipment:
Overhead Cranes • The Trackmobile • Electric Chain Hoists

WHITING CORPORATION
15659 Lathrop Avenue, Harvey, Illinois



Send for this Folder!

See how Trambeam speeds work in six departments of the Euclid, Ohio plant of Reliance Electric and Engineering Company!

MEN in the news

... at Wright-Hibbard Electric Truck Co.

A completely new management group now is directing activities of the company. New officers include **W. B. Huntley**, president and treasurer; **Richard E. Mayberry**, vice president and sales manager, and **C. J. Spacher**, vice president and production manager. Huntley joins the firm from Brace-Meuller-Huntley, Inc., where he continues as vice president. Mayberry formerly was associated with Eastman Kodak Co. in marketing research, and Spacher was formerly production manager for Rittenhouse Co.



W. B. Huntley

... at The Stanley Works

The appointment of **Charles K. Nichols** as sales manager of the Magic Door Division, has been announced by vice president **Henry V. Pelton**. Nichols formerly was sales promotion manager for Magic Doors since February, 1952, when he came to Stanley Works from Reflectal Corp.



C. K. Nichols

... at Browning Crane & Shovel Co.

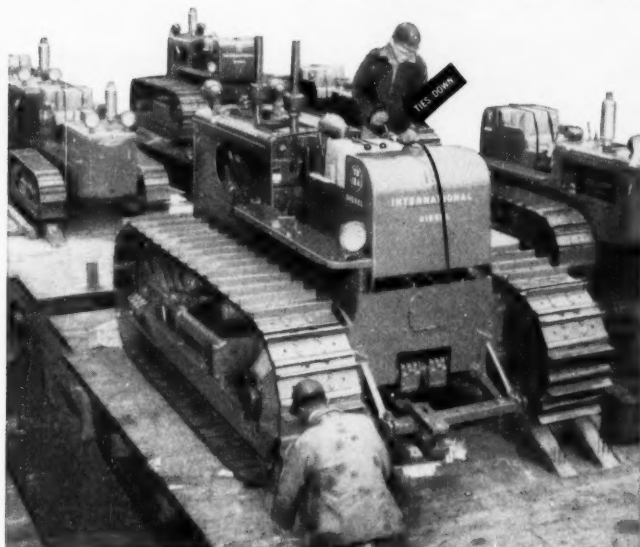
Numerous new policies have been announced by Browning's new president **John R. Cary**, who succeeded his father, **Sheldon Cary**, 82, president for the past 40 years.

Other new officers recently

Circle No. 78 on Reader Service Card for more information

Acme Steel Strapping Insures S.A. *(Safe Arrival)*

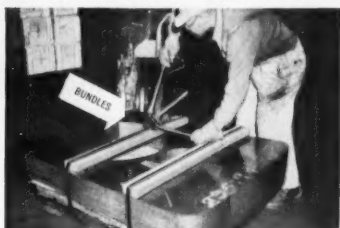
**Secures tractor parts for long-distance hauling
... saves time and trouble for International Harvester**



STRAPPING ON A TRACTOR. When International Harvester ships crawler tractors on open railroad flatcars, Acme Steel Strapping ties tool boxes, lubrication equipment and seat cushions in place for the journey.



SOLE SUPPORT for these IH Diesel engines is one Acme Steelstrap per engine. It secures the engine to a pallet for easy handling.



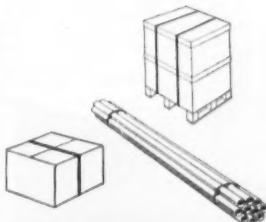
4,000 POUNDS of tractor dashboards are bundled together with Acme Steel Strapping for delivery from one International Harvester plant to another.

Whenever you receive anything secured with Acme Steel Strapping, you know that the shipper has taken care to get it to you safe. He has also beat the threat of damage-in-transit and has cut the cost of packing and shipping, too.

Acme Steel Strapping does all these things. It makes packing and loading easier and faster. It provides better protection during shipment, and

helps insure S.A. (Safe Arrival).

Almost certainly, Acme Steel Strapping or Acme Steel Stitching Wire methods can help somewhere in your operation. If you have any kind of a shipping or materials-handling problem, we may have just the idea you need. Write Acme Steel Products Division, Dept. F-43, ACME STEEL COMPANY, 2840 Archer Avenue, Chicago 8, Illinois.



**ACME
STEEL**

STRAP IT... STITCH IT... SHIP IT... SAFELY!

Circle No. 83 on Reader Service Card for more information



STANLEY *Magic Door* CONTROLS

Present Many Opportunities to REDUCE Costs

Doors that are opened and closed automatically by Stanley Magic Door Controls save man hours and traffic flows more smoothly and faster. They save wear and tear on plant mobile equipment as well as on the doors themselves. Heat and humidity losses are minimized. Employees are happier and more efficient . . . and every plant finds plus benefits from every different application on new or existing doors.

Let a Stanley representative share with you his knowledge, gained by over 20 year's experience, to help you reduce costs.

Magic Door Controls with pull cord, regular Stanley operator for "in" and "out" door handling 2-way traffic, using existing air supply on existing doors can be purchased for as little as \$347.50. Send for further information today.

SEE STANLEY MAGIC DOORS IN ACTION
BOOTH 1200, Materials Handling Exposition, Philadelphia



The Stanley Works, Magic Door Division
3014 Lake St., New Britain, Conn.

Gentlemen: () Please send full information on Stanley Magic Door Controls.

() Have representative stop in when in the area.

Company Name _____

My Name _____

Address _____

City _____ Zone _____ State _____

STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

Circle No. 65 on Reader Service Card for more information

MEN

Continued

elected were D. H. Leuszler, vice president, C. F. Barry, treasurer, and J. F. Svoboda, secretary. Recently retired from office were Arthur S. Meyer, executive vice president with 43 years' service, and George T. Stalley, assistant secretary and assistant treasurer, who had 48 years service.

. . . at Gould-National Batteries, Inc.

Appointment as St. Louis district manager of Gould's industrial division has been announced for **W. H. Burkey**. He has been associated with the battery industry for more than 35 years, and has been with Gould and its predecessor companies since 1930. Besides his eight years experience in submarine and diesel battery maintenance, Burkey has been serving industrial battery users in the St. Louis area since 1941.



W. H. Burkey

. . . at Acme Steel Co.

"Our continuous expansion program," stated **Hugh L. Bills**, vice president and director of industrial relations, "brought about the need for the recent appointment of **Edward C. Kent** as manager of industrial relations at the Riverdale and Racine plants." Kent has been with Acme since 1949 after coming from Victor Mfg. & Gasket Co. and Sherwin-Williams Paint Co., where he served in industrial relations capacities.



E. C. Kent

. . . at Baker-Lull Corp.

The appointment of **Gilbert C. Strege** as president of the

HYSTER PRESENTS...

Two Completely NEW Lift Trucks!



30" Free Lift
75" Turning Radius
38" Wide
82½" Collapsed
Height (with 9' lift)



The Ultimate in 4000-lb.
Lift Truck Maneuverability



THE UC-30

Capacity, 3000 lbs.
(24" load center)
Length, only 74½"

THE YC-40

Capacity, 4000 lbs.
(at 24" load center)
Length, only 78½"

STREAMLINED AND FUNCTIONALLY DESIGNED FOR UNEQUALED PERFORMANCE IN CAR LOADING, WARE- HOUSE AND ALL OTHER CLOSE-QUARTER OPERATIONS

Hyster now offers, in addition to the pneumatic-tired 4000-lb. YT-40 Lift Truck, a new lift truck in the 3000-4000-lb. class—designed specifically for close-quarter operation!

The new Hyster YC-40 is smaller than the pneumatic-tired YT-40 because it is functionally designed to more compact dimensions, utilizing smaller cushion tires. The YC-40 is recommended for those applications

where it is not necessary to use pneumatic tires.

The new Hyster UC-30 is basically a YC-40 Lift Truck with a lighter counterweight, but with the same engine. Both incorporate advanced features not found in any other lift truck today! Call your Hyster dealer, or write for Catalog 1241 to:

HYSTER COMPANY

2931 N. E. Clackamas St. 1031 Myers St.
Portland 8, Oregon Danville, Illinois

Be Sure to Call HYSTER Before You Buy ANY Lift Truck!



Hyster 20
for 1000-2000-lb. work
requiring pneumatic tires.



Hyster UC-30
for 3000-lb. close-quarter
work. Cushion tires.



Hyster YT-40
for 4000-lb. work requiring
pneumatic tires.



Hyster YC-40
for 4000-lb. work in close
quarters. Cushion tires.

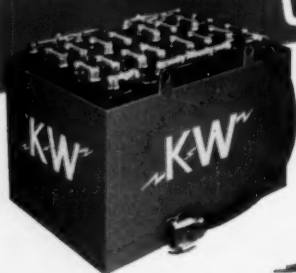


HYSTER COMPANY

• FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands
Circle No. 124 on Reader Service Card for more information



CUT BATTERY COSTS UP TO 34.7%



- Low Original Cost
- Guaranteed-in-Advance Cost of Operation at Maximum Efficiency
- Lower Maintenance Cost

K-W

INDUSTRIAL STORAGE BATTERIES For All Types of Battery-Operated Trucks

K. W. has been designing and manufacturing dependable, rugged, long-life batteries for over 40 years. These long years of experience in every kind of battery driven equipment qualify K. W. to give the best and most economical service.



K. W. BATTERY COMPANY, Inc.
3555 Howard Street, Skokie, Illinois

Please Rush:

☐ Battery Literature for:
(Please fill in)
 Make of Truck _____
 Present Battery _____
 No. of Cells _____ Type _____

☐ Guaranteed Cost Plan
☐ Have Representative Call

NAME _____

FIRM NAME _____

ADDRESS _____ ZONE _____ STATE _____

CITY _____

K. W. BATTERY COMPANY, Inc.

**MAIL
COUPON
TODAY**

Circle No. 127 on Reader Service Card for more information

MEN

Continued

Baker-Lull Corp. in Minneapolis was announced by **William A. Bauer**, chairman of the board. The recent acquisition of the Lull Mfg. Corp. by Baker-Raulang Co., also brought about the change of company name. Strege, until recently, was manager of the McBee Company's technical division.

... at Hyster Co.

The recent arrival in Holland of **Frank A. Rostedt** marked the climax of his appointment as general manager of Hyster's new European plant in Nijmegen, Holland. Rostedt formerly was comptroller and assistant secretary of the company and has been with Hyster since 1938. In making the announcement, **Eugene Caldwell**, vice president and general manager of the company, stated that **Wilmer B. Morrow**, chief accountant, would be named to Rostedt's former post.



F. A. Rostedt

... at Fairbanks Co.

James L. Ragland has been appointed manager of the Rome, Georgia, branch of the company. He previously served as Fairbanks representative in the Alabama area, and in his new capacity he will supervise the entire southern sales organization of the company. A feature of the new offices at Rome will be complete warehouse facilities for stocking all Fairbanks valves, trucks, wheels, casters and unions.



J. L. Ragland

... at General Box Co.

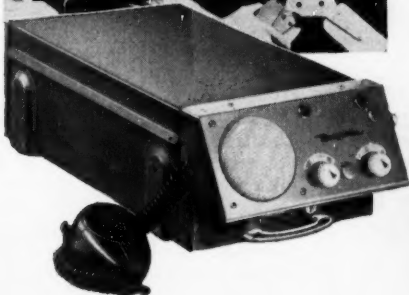
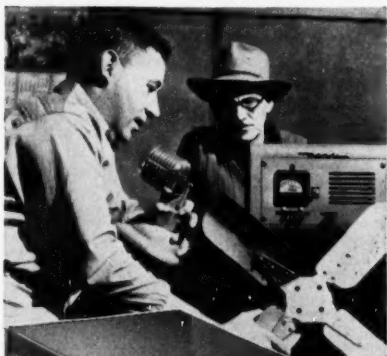
J. A. Cragwell, president, has named two new directors on

Motorola 2-Way Radio

"... like working
a double crew
on each job!"



Uni-Channel Sensicon Dispatcher puts 2-way radio contact in every vehicle... takes jolts and shocks of rough terrain... cuts "dead" mileage... speeds operations.



MORE THAN PAYS FOR ITSELF

Motorola radio centralizes control of wide-spread crews... co-ordinates operations... cuts "down" time... reduces travel time... gets men and equipment to the job faster. These savings pay for Motorola installations over and over again.

Motorola radio is ruggedly built, quickly installed, easily operated—a *hard-working tool* for day-in, day-out utility.

Eight exclusive Motorola features guarantee precision selectivity... time-tested durability... obsolescence-proof design. Motorola puts 24 years of electronics leadership into every custom-tailored installation. Let a friendly Motorola engineer in your vicinity show you how Motorola 2-way radio can improve *your business*! Write to Dept. 2-86-FL.

Motorola®

Communications & Electronics, Inc.

A SUBSIDIARY OF MOTOROLA, INC.

900 N. Kilbourn Ave., Chicago 51, Illinois
Rogers Majestic Electronics Ltd., Toronto, Canada



This gravity conveyor will handle any commodity that has a full, smooth bottom. Initial cost of MHS Wheelveyor is low. Operation is smooth and free even at minimum pitch. Its rugged construction assures long service.

Wheelveyor is light weight and adaptable—standardized component parts can be assembled in a variety of combinations to meet desired requirements.

Put the MHS Wheelveyor—permanent or portable type—to work moving your goods. Save time, labor, money!



LOOK INSIDE THE WHEELS
Free-running, $\frac{1}{4}$ " ball bearings in hardened steel raceways. Enclosed construction keeps dirt out, seals special lubricant in. Broad-faced, corrosion-resistant wheels.



2 $\frac{1}{2}$ " formed side channels, braced with 5 cross supports per 10 ft. section. Twin center band construction adds strength, rigidity. Precision cut spacers between wheels for true package tracking.

LIGHT, RIGID FRAMES

FREE ILLUSTRATED BOOKLET!

WRITE FOR YOUR COPY!

**Mechanical
Handling**

Systems, Inc.

4620 NANCY AVENUE, DETROIT 12, MICH.

Offices in Principal Cities

In Canada: Canadian Mechanical Handling Systems, Ltd.

Circle No. 43 on Reader Service Card for more information



MEN

Continued

the company board. They are **E. J. Sommers**, president of Mid-States Steel & Wire Co. and **Allen A. Ward**, treasurer of General Box Co.

... at Goodyear Tire & Rubber Co.

Robert C. Case, technical superintendent of the Gadsden, Alabama, plant, has been called back to Akron, Ohio, to assume new duties as chief engineer of the tire design division of the company. Case has been affiliated with Goodyear since 1933 and has held his former post at Gadsden since 1950. His new appointment was announced by **Dr. R. P. Dinsmore**, vice president in charge of research and development.



R. C. Case

... at Automatic Transportation Co.

The promotion of **George R. Hettinger** to manager of railroad sales has been announced by **John A. Baldinger**, general manager. He joined the company two years ago as railroad and transport sales representative.



G. R. Hettinger

... at Electric Products Co.

Five new appointments have been announced by president, **Gordon J. Berry**. **Dr. W. A. Thomas** has been named chief engineer; **E. D. Smith** is consulting engineer, **J. J. Unger** becomes manager of electrical engineering, and **R. H. Worby** has been appointed chief industrial engineer.

(Continued on page 132)

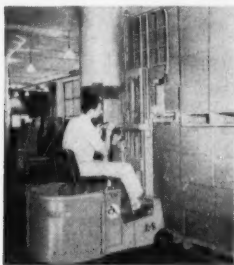
FLOW • APRIL, 1953

HANDLING HELPS

by A.L.L.

No More Muscle Men . . .

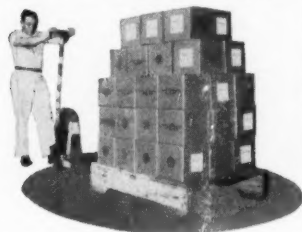
It used to take strong men to shuffle warehouse stock — now even the office boy can do the job faster and for far less money. Just get yourself an inex-



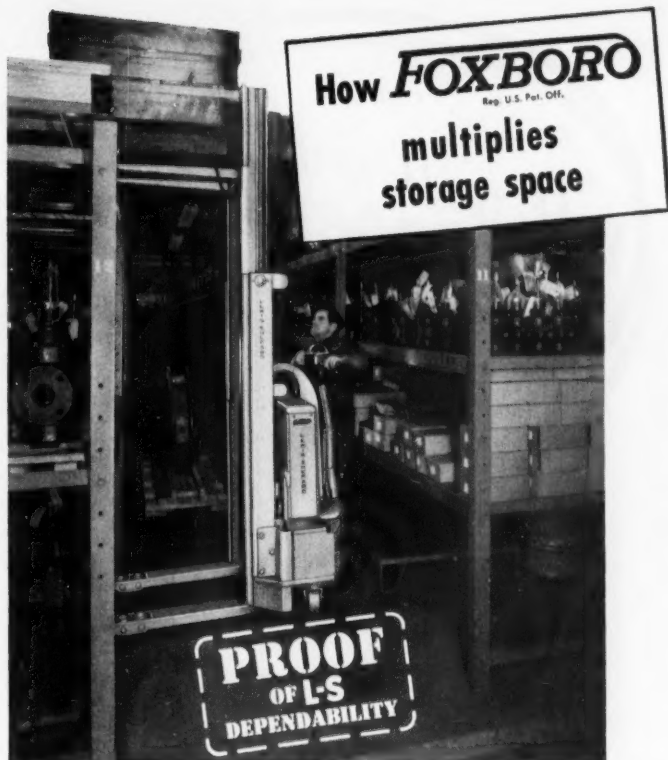
pensive Lewis-Shepard Model "J" Fork Truck to "whizz" 2000 lb. loads from place to place . . . stack 'em high with effortless ease. Incidentally, the "J" sells for about half as much as standard trucks of equal capacity. A recent check revealed that it cost just a dime (yes, I said 10c) a day to charge the "J" battery. Interested? Its other features are just as interesting — write us and see.

Don't Sell the Hand Lift Short!

In large and small plants alike, there'll always be a place for rugged hand lift trucks. Sometimes they meet all your needs; in other cases they supplement your electric trucks. For example, a



Lewis-Shepard JackLift stationed at shipping and elevator doors is good insurance against traffic tie-ups . . . the JackLift is on the spot to clear the way when electric trucks are busy elsewhere. We make JackLifts in many models with 1000 to 20,000 lb. capacities — special purpose models, too. And you can't buy better ones. May we show you some? Write *Lewis-Shepard Products, Inc., 34 Walnut St., Watertown 72, Massachusetts.*



By reducing aisle widths to 58 inches between storage racks, The Foxboro Company, Foxboro, Mass., substantially increases storage space. Keeping materials handling efficiency high in these narrow aisles is a job for one particular truck — the new Lewis-Shepard Electric Jack-Stacker with capacities to 6000 lbs. Officials at Foxboro report that the Jack-Stacker was the only truck which could meet their specifications.

Take a long look at this new Jack-Stacker . . . it'll get into the tightest places with ease. And it has all the other features you'll want, too: speed with smooth acceleration, powerful brakes, simplicity of operation — all controls are in handle

head, "squeeze to start . . . release to brake". Prove for yourself its greater dependability and economy — write for Catalogs, Comparison Chart and "Proof Folders".

HERE'S MORE PROOF OF LEWIS-SHEPARD WALKIE TRUCK DEPENDABILITY

Listed are some current L-S reorders from blue-chip companies in various industries:

Amusement Goods	had 74 — re-ordered 6
Insulation Mfr.	had 1 — re-ordered 15
Electrical Goods	had 194 — re-ordered 14
Grocery Chain	had 73 — re-ordered 6
Chemical Mfr.	had 14 — re-ordered 5
Rubber Goods Mfr.	had 5 — re-ordered 3
Carbon Mfr.	had 23 — re-ordered 4

LEWIS-SHEPARD®

Nationwide Service — See "Trucks, Industrial" in your Yellow Phone Book



LEWIS-SHEPARD PRODUCTS, INC.

34 Walnut St., Watertown 72, Mass.

Please send me Catalogs, Comparison Chart and "Proof Folders" illustrating JackStackers at work.

Name _____

Company _____

Street _____

City _____ State _____

Circle No. 38 on Reader Service Card for more information

*It will serve
on any Panel...*

Added Evidence
that

Everyone Can Count on VEEDER-ROOT

REPORTER AT LARGE . . . that's what you might call this new Veeder-Root Reset Magnetic Counter . . . adaptable to remote counting from machines or processes to central boards or instrument-clusters, wherever you want to put them. NOW . . . what can

your imagination do with these few facts? For the *full facts*, write:

VEEDER-ROOT INCORPORATED

"The Name That Counts"

HARTFORD 2, CONNECTICUT

Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities



"Counts Everything on Earth"

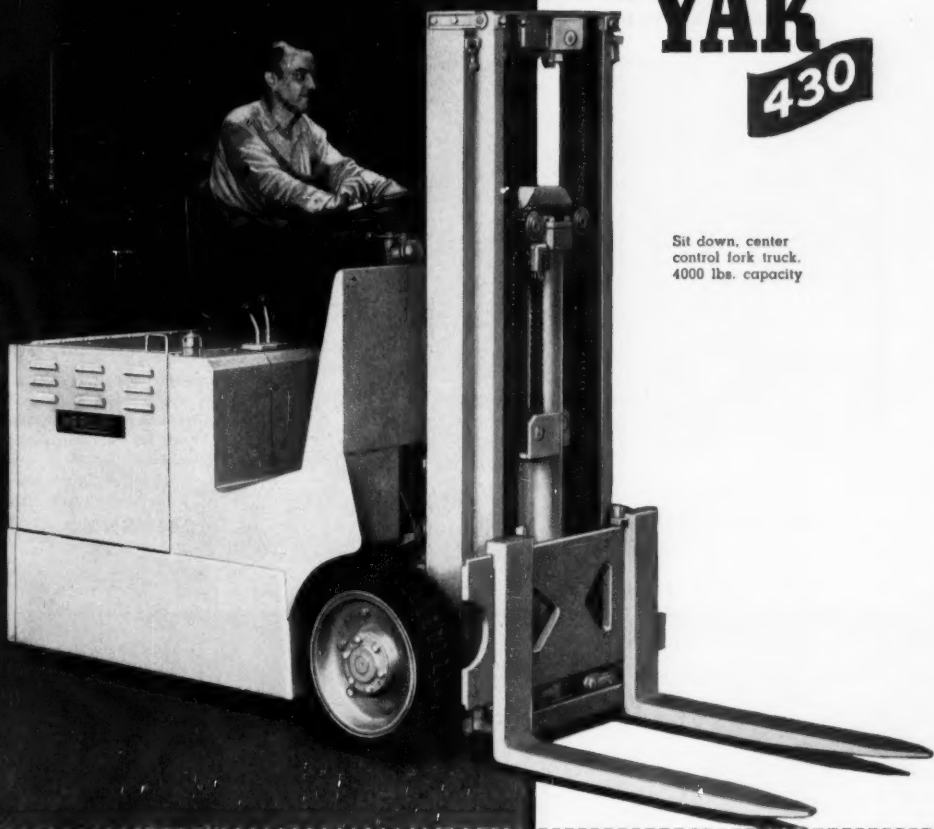
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New...

Mercury

YAK

430



Sit down, center
control fork truck.
4000 lbs. capacity

Included in the many advanced design features of the new MERCURY "Yak" 430 are...higher maximum fork elevation ★ increased free lift ★ greater speed ★ lighter chassis weight ★ shorter turning radius ★ simple low pressure hydraulic hoist system ★ new unit drive with quick detachable motor and self-energizing hydraulic brakes ★ new compensating castor type steering axle ★ Timken duo-grip parking brake actuated by driver's seat. Write for complete details.



MERCURY MANUFACTURING CO.
4154 S. Halsted St., Chicago 9, Ill.

Send copy of new MERCURY "Yak"
430 Bulletin to:

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____

Circle No. 45 on Reader Service Card for more information

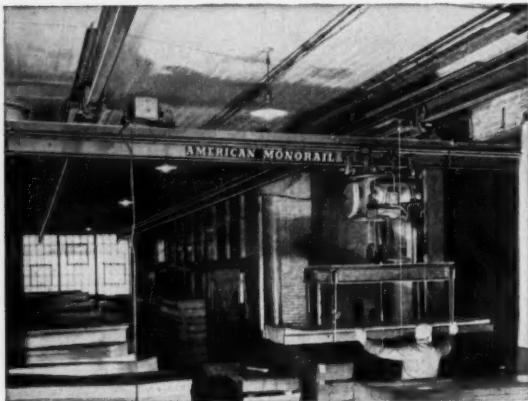
AMERICAN MONORAIL

- INCREASES PLANT CAPACITY AND PRODUCTION
- REDUCES HANDLING COSTS, DAMAGE AND LOSS

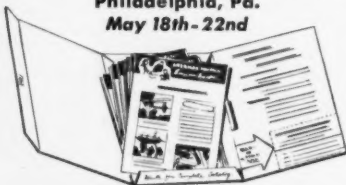
American MonoRail Engineers can show you how to get more profitable production out of your plant by systematizing material handling. Let them show you how to convert lost ceiling space to profit—how to eliminate obstructive storage around ma-

chines—lessen worker fatigue—reduce heavy load accidents—stop damage to product in motion.

Bring us your handling problems—American MonoRail can provide the equipment best suited to your needs.



See our booth at the
**5th National
Materials Handling Exposition**
Philadelphia, Pa.
May 18th - 22nd



Send for New Case Study File

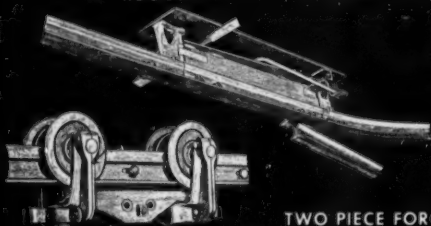
This brand new case study file contains the first of a continuing series of case studies covering many successful American MonoRail installations. Send today for original file. Future studies will reach you as published.

THE AMERICAN MONORAIL COMPANY

13129 ATHENS AVENUE

CLEVELAND 7, OHIO

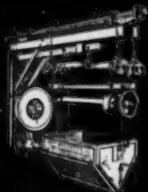
RUGGED SWITCH CONSTRUCTION



OVERLAPPING SPLICE



TWO PIECE FORGED YOKES



SCALE HOIST CARRIER



FREE MOVING CRANES

Circle No. 87 on Reader Service Card for more information

FLOW • APRIL, 1953

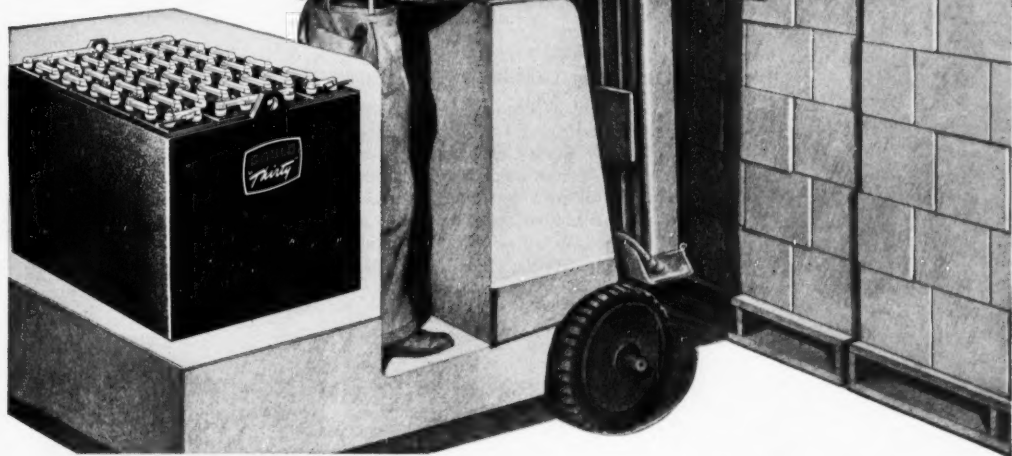
HERE'S HOW TO *BEAT THE* *HIGH COST OF MOVING MATERIALS!*

For maximum materials handling economy, standardize on Gould "Thirty" Batteries for your electric industrial trucks . . . and systemize battery maintenance with the Gould Plus-Performance Plan described at the left. Here's a sure-fire, cost-cutting combination. Write for full information on Gould "Thirty" Batteries and the Gould Plus-Performance Plan.



THE GOULD PLUS-PERFORMANCE PLAN—A library of technical information that tells you how to select, charge, maintain and determine the condition of lead-acid batteries. It's free. Write Gould Battery Information Headquarters.

The Gould "Thirty"—
America's Finest
Industrial Truck Battery



GOULD

Industrial Batteries

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, N. J.

Always Use Gould-National Automobile and Truck Batteries

Circle No. 29 on Reader Service Card for more information

What's

NEW in equipment



Light Trolley Conveyor—

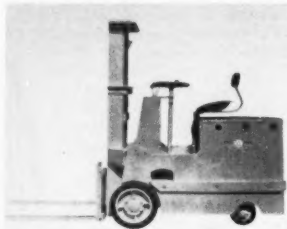
Mathews Conveyor Company has added a light trolley conveyor to its line of equipment of this type. The unit, known as the "Chainveyor", is a light-duty, fully enclosed, continuous chain conveyor. It is said to have no complicated wearing parts, and requires a minimum of maintenance. The flexible short radius curves and straight tubular track sections are reported to be easy to install. It is recommended wherever light, flexible trolley conveyors are needed.

Circle No. 170 on Reader Service Card for more information

Electric Fork Truck—

A line of battery-powered fork trucks has been introduced by Wright-Hibbard Industrial Electric Truck Company, Inc. Nine models are available, ranging from 2000 to 4000 pounds capacity, with a choice of load centers of 15, 20 or 24 inches. Motors are series-parallel wound, 32 volt, 2400 RPM. There are four speeds forward and four in reverse. Shifting is automatic. Steering is automotive type, and mast tilts 10 degrees backward and 4 degrees forward.

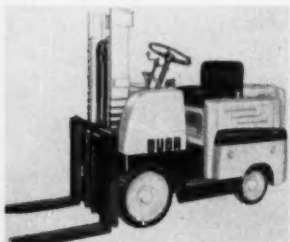
Circle No. 171 on Reader Service Card for more information



Diesel or Gasoline Fork Truck—

Shown here is the 5000-pound capacity Model FTD50-24 diesel-powered, or FT50-24 gasoline-powered fork truck manufactured by The Buda Company. The trucks are rated 5000 pounds capacity at 24-inch load center from heel to the forks. They are available in standard heights of lift, of 72, 84, 108, 114 and 120 inches. The overall length (less forks) is 88 inches, with a wheel base of 50 inches. Width is 42 inches, and truck can turn in a 71-inch aisle.

Circle No. 172 on Reader Service Card for more information



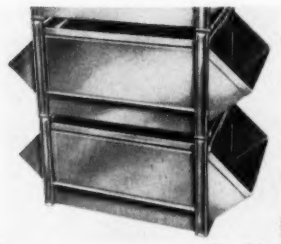
Wire Mesh Conveyor—

This curved wire mesh belt conveyor was developed by The Leeds Electric & Mfg. Company to solve the problem of taking material around a curve, under power, without disturbing the position of the material on the belt. It is available in belt widths of 3 to 36 inches, and may be run with a single power unit for any belt speed. The curved section may be a complete unit, for use with either flat conveyors, or it may be a complete wire mesh conveyor.

Circle No. 173 on Reader Service Card for more information



Capsuled descriptions summarizing the latest information obtained from manufacturers. To get more details quickly, ask for them by number on the free-mailing Reader Service Card.



Stacking Tote Boxes—

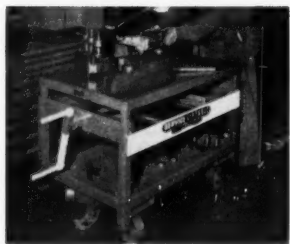
Manufactured by Stackbin Corporation, these double-ended Stackbins in Stackracks are said to solve the problem of serving two operators on two assembly lines set up face-to-face. Re-loading can be done from either end or by replacing with a full double-ended Stackbin. They are constructed of heavy gauge steel with built-in positive stacking, index-card holders on both ends, and are finished in baked-on green enamel.

Circle No. 174 on Reader Service Card for more information

Heavy Duty Roller Conveyor—

A line of 2 1/4-inch heavy duty roller conveyors for use where capacity up to 600 pounds per roller is required has been announced by Sage Equipment Company. These conveyors are available in standardized widths from 6 to 36 inches, in 5 and 10-foot lengths, and 90° curves. Rollers may be equipped with heavy duty standard bearings, grease packed, or dust sealed bearings. The rollers are 2 1/4 inches in diameter and have 3/16-inch wall thickness.

Circle No. 175 on Reader Service Card for more information



Elevating Table—

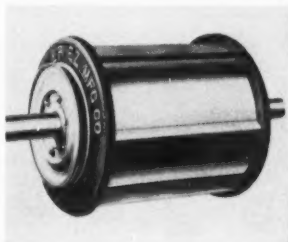
Known as the Liftable, this elevating table manufactured by Service Caster and Truck Corporation is particularly adapted to moving and lifting or lowering dies, jigs, tools and other heavy objects. The weight of the unit is 380 pounds, and the table raises 14 inches. It is 26 inches wide, 43 inches long, and 28 inches high with the table lowered. Vice-type sliding handle permits cranking even with long, over-hanging loads. Foot-operated floor lock prevents horizontal movement.

Circle No. 176 on Reader Service Card for more information

Improved Magnetic Drum—

Improvements and modifications on Eriez permanent magnetic drums have been announced by Eriez Manufacturing Company. Among the improvements incorporated are: changeable sheave sizes for various operating speeds; stainless steel shells that resist pitting and corrosion; dust-tight construction; lightweight, rigid, cast aluminum sides; adjustable feeder assemblies; oil-sealed bearings; extended discharge ducts. It is available in two models with or without housing.

Circle No. 177 on Reader Service Card for more information



WHAT'S NEW IN EQUIPMENT

Continued



Conveyor Diverting Rail—

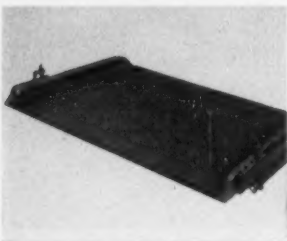
The diverting rail for simplified switching from live roller to spur is manufactured by Metzgar Company. Both the diverting rail and spur can be used at any point on the live roller conveyor, and clamp attachments make it easy to move the units to any desired position. The wheel diverting rails can be remotely controlled for diversion at any one of a series of spurs, making complicated switching unnecessary.

Circle No. 178 on Reader Service Card for more information

Load Stabilizer—

Pictured here is a hydraulic-powered load stabilizer for fork trucks with capacities up to 6000 pounds. Manufactured by Elwell-Parker Electric Company, it is designed for safe transportation of unstable and semi-stable loads. Clamping pressure can be varied to suit the product being handled within limits of 150 to 1350 psi. A hydraulic pressure blow-off valve is part of the system to prevent crushing the load due to excessive clamping after setting the pressure.

Circle No. 179 on Reader Service Card for more information



Safety Loading Ramp—

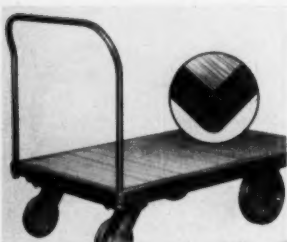
Illustrated is the Penco flared car loading ramp, reported to permit the greatest adaptability with utmost safety. Manufactured by Penco Engineering Company, it is made of lightweight magnesium and employs the Penco full-range locking device. Of heavy duty safety plate, it is non-skidding, crowned for different levels, and has beveled edges for "no-jar" activity. There are 52 standard models, and capacities range from 3000 pounds to 10,000 pounds.

Circle No. 180 on Reader Service Card for more information

Stainless Steel Screw Conveyor—

The M-H Standard Company now carries 6-inch diameter stainless steel screw conveyor. Standard sections are right hand 6-inch diameter, 6-inch pitch by 9 feet, 10 inches long, 1/8 inch thick type 304 stainless steel flight welded to 2-inch stainless steel pipe which is bushed and drilled for standard 1 1/2 inch coupling shafts. Two styles include the Industrial, which has a mill finish and welded at intervals, and the Saniscrew (illustrated), which is continuously welded.

Circle No. 181 on Reader Service Card for more information



Low-Cost Floor Truck—

Said to combine high quality with low cost, the All Steel Welded Truck Company has announced its Clark heavy-duty Model CB floor truck. It is made with two complete arc-welded steel frames, and has rounded corners for safety. The flush-mounted renewable deck is sandwiched between the frames and protected by a minimum of six and as many as eight cross-members per truck. It is equipped with Clark unbreakable fabricated casters and wheels.

Circle No. 182 on Reader Service Card for more information

(Continued on page 150)

PALLETAINERS AT WORK...

cutting
production
costs!



Got a production lag problem? Whether it's in foundry, pressroom, or assembly line, you may find USP Palletainers are the answer you've been seeking. Just look how these convenient, versatile units find key places for themselves! Natural receptacles for forgings, stampings or finished parts, they can be moved quickly, easily to the next operation. And to the next and the next! New design of extra-strong malleable cast legs provides eight-way entry for fork trucks. Reinforced steel rod construction is virtually indestructible for unusual protection of 6000 lb. maximum load. Palletainers are perfect for temporary storage, for warehousing, and for shipping, too! They even fold flat when empty to save you return freight costs. Write today and learn how little it costs to start Palletainers working for you.



UNION STEEL PRODUCTS COMPANY
ALBION, MICHIGAN

1903 Our Golden Anniversary 1953

5TH NATIONAL MATERIALS HANDLING EXPOSITION

See the largest and most comprehensive array of materials handling equipment ever assembled in one place and at one time! More than 250 companies will present and demonstrate six acres of machines, supplies and services that are today's pacemakers for cost reduction and operating efficiency.

Top experts will examine new developments in materials handling techniques at conference sessions concurrent with the show.

**For information, address
Clapp & Poliak, Exposition Management,
341 Madison Avenue, New York 17**

**MAY 18-22
CONVENTION
HALL
PHILADELPHIA**

AT THE GREATEST MATERIALS HANDLING SHOW

PHILADELPHIA, MAY 18th THROUGH 22nd, 1953

See **CLARK**
EQUIPMENT IN ACTION!

- ◆ **NEW MODELS** — FORK TRUCKS, POWERIZED HAND TRUCKS, TOWING TRACTORS
- ◆ **FOUR POWER UNITS** — GAS, ELECTRIC, DIESEL, L. P. GAS
- ◆ **FOUR DRIVE UNITS** — STANDARD, ELECTRIC, DYNATORK and the NEW HYDRATORK
- ◆ **NEW ATTACHMENTS** — IN ACTION, HANDLING ROLLS, CRATES, BALES, ETC.
- ◆ **See NEW CLARK MOVIE** — "SAFETY SAVES,"

DRIVER TRAINING AND SAFETY

◆ **And watch
CLARK
SERVICE
in action!**

SEE THE SERVICE
AND MAINTENANCE
FACILITIES AVAILABLE
TO EVERY CLARK USER!



1903
1953

THIRTY FIFTY YEARS
CLARK
EQUIPMENT

INDUSTRIAL TRUCK DIVISION
CLARK EQUIPMENT COMPANY
BATTLE CREEK 13, MICHIGAN

WRITE FOR FREE REGISTRATION TICKETS

Circle No. 106 on Reader Service Card for more information

All the POWER you want
In an ARMS LENGTH



27 3/4"

*Only
27 3/4 Inches
Longer
than the
Load*

MODEL PAL



Think of it . . . In only 27" is packed the complete power unit for the "Walkie" type lift truck. *Other models are only 23 3/4" . . . That's space efficiency . . . plus!

If you have a material handling problem that requires minimum "operation area", ask about the "Walkie" MOTO-TRUC. Its application in close areas is making history every day . . . write for complete information on all the advantages of MOTO-TRUC.

Representatives in Principal Cities

The MOTO-TRUC Co

1955 E. 59th STREET • CLEVELAND 3, OHIO
PALLET . . . PLATFORM . . . HI-LIFT TRUCKS
LARGEST EXCLUSIVE MANUFACTURER OF "WALKIES"



Circle No. 50 on Reader Service Card for more information

**LITERATURE
featured
in ads**

There's Always A Way

Many companies find they do not have room on their shipping docks to install adjustable dock ramps. Rowe Methods, Inc., provides literature on its Adjust-A-Truck hydraulic lift which is set in the pavement in front of the dock. It lifts or lowers the rear of the trucks to meet the dock level.

Circle 145 on Reader Service Card

Magnesium Plate Available

Information may be obtained upon request from Brooks and Perkins, Inc., regarding uses for hot rolled magnesium plate. Numerous applications are possible for the light-weight metal sheets, especially where human fatigue is a problem.

Circle 98 on Reader Service Card

Worth Its Weight

A scale which can be adapted to any hydraulic cylinder type lift truck enables the driver to weigh his load as he raises it, according to literature available from Martin-Decker Corp., manufacturer of the scale. The device makes every lift truck a portable scale as well.

Circle 134 on Reader Service Card

Liquid Measurement

Bowser, Inc., invites inquiries concerning the facts about liquid measurement. Their Nacto meters are said to provide safe and accurate handling of all types of liquids through processing, blending, packaging and many other operations.

Circle 96 on Reader Service Card

Here are just two of the big pages from the new Yale Hoist Book

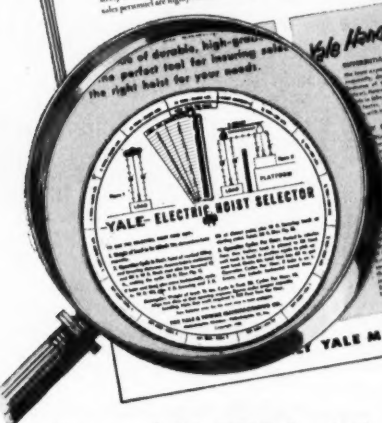
IT'S YOURS FOR THE ASKING



WHICH YALE HOIST IS BEST FOR YOUR NEEDS?

The selection of just the "right" Yale Hoist to fit your needs is the most important and the best step in insuring that you get what you really need in hoisting equipment. Yale Hoists are sold exclusively through Industrial Distributors... and these sales personnel are highly trained and fully qualified to survey your operation. They will recommend the equipment that is best for you... but most of all, the economical, efficient use of the your staff in the operation and organization. Details on the operation and organization of Yale Industrial Distributors will be found on the inside back cover of this book.

...of durable, high-grade materials...
...the perfect tool for insuring sales...
...the right hoist for your needs.



"Check Chart" of YALE ELECTRIC HOIST FEATURES

that mean time, work and money-saving efficiency for every user... every industry.

YALE HOIST FEATURES	CARD HOIST ELECTRIC HOISTS Capacity Up to 15 tons	WINDUP HOIST ELECTRIC HOISTS Capacity Up to 5 tons	LOAD KING ELECTRIC HOISTS Capacity Up to 10 tons	LOAD KING ELECTRIC HOISTS Capacity Up to 15 tons
Exclusive air-coupling	✓	✓	✓	✓
Locally controlled	✓	✓	✓	✓
400-volt motor	✓	✓	✓	✓
Emergency stop control	✓	✓	✓	✓
Modified drum control	✓	✓	✓	✓
Radio-Chain lift	✓	✓	✓	✓
Wire rope lift	✓	✓	✓	✓
Motor start push button	✓	✓	✓	✓
Over load protection	✓	✓	✓	✓
Automatic stop	✓	✓	✓	✓
Non-fracturing top and bottom lead tracks	✓	✓	✓	✓
Alloy steel, chrome nickel, steel-cased gears	✓	✓	✓	✓
Upper and lower lead rollers	✓	✓	✓	✓
Alloy steel	✓	✓	✓	✓
Motor brake	✓	✓	✓	✓
Load track with pressure rollers	✓	✓	✓	✓

YALE MAKES A COMPLETE LINE OF HAND AND ELECTRIC HOISTS

YALE*

MATERIALS HANDLING EQUIPMENT

*Registered trade mark

You need this **FREE** book if...

...your company uses hoisting equipment in any phase of its operation! This book is more than a catalogue of the industry-leading YALE line... it is a carefully and expertly designed tool... thoroughly illustrated... scientifically developed to help you select just the right hoist for your needs. Yes, you need this book if your hoisting requirements are just an occasional lifting job or a major part of your work. Get it without obligation by completing the coupon and mailing it today.

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Gas and Electric Industrial Trucks • Worksavers • Hand Trucks • Hand and Electric Hoists • Pul-Lifts

Circle No. 81 on Reader Service Card for more information



DRUM STORAGE...

Illustration shows Manzel Crane handling the new lightweight collapsible container of U. S. Rubber Company.

Manzel

FLOOR CRANE

Solves MANY
Handling Problems

● One man guiding this Manzel Hydraulic Floor Crane easily transfers the heaviest loads from place to place. Raising or lowering with a few easy strokes, steering accurately through tight aisle spaces, riding *safely* over any surface, the Manzel Floor Crane is the answer to a variety of problems. Let Manzel engineer one to *your* requirements. For information write.



286 Babcock Street
Buffalo 10, New York

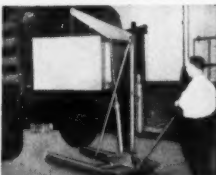
CASTING SUPPORT



MATERIAL HANDLING



LOADING AND UNLOADING



MACHINE REPAIR



AD LITERATURE

Continued

Pile It Better, Faster

Fast economical piling and moving of bulk materials such as coal, chemicals or grain, is said to be accomplished most efficiently by a Sauerman Bros. Inc., power scraper. A large catalog is available from the manufacturer as well as complete engineering advice, if requested.

Circle 61 on Reader Service Card

Front Wheel Drive

Lift Trucks Inc. will furnish complete information about its Hydroelectric lift truck with easy-steering front wheel drive. They maintain steering is 50 percent easier. Power units, too, are interchangeable on all models so that a spare power unit eliminates the need for costly truck downtime.

Circle 39 on Reader Service Card

Special Scales For Special Jobs

A catalog of scales adapted to special weighing jobs may be obtained from Deteco Scales Inc. Different materials must be measured in different ways to obtain different information. Needless to say, this calls for different types of scales. At least, Deteco's catalog indicates that the types are many.

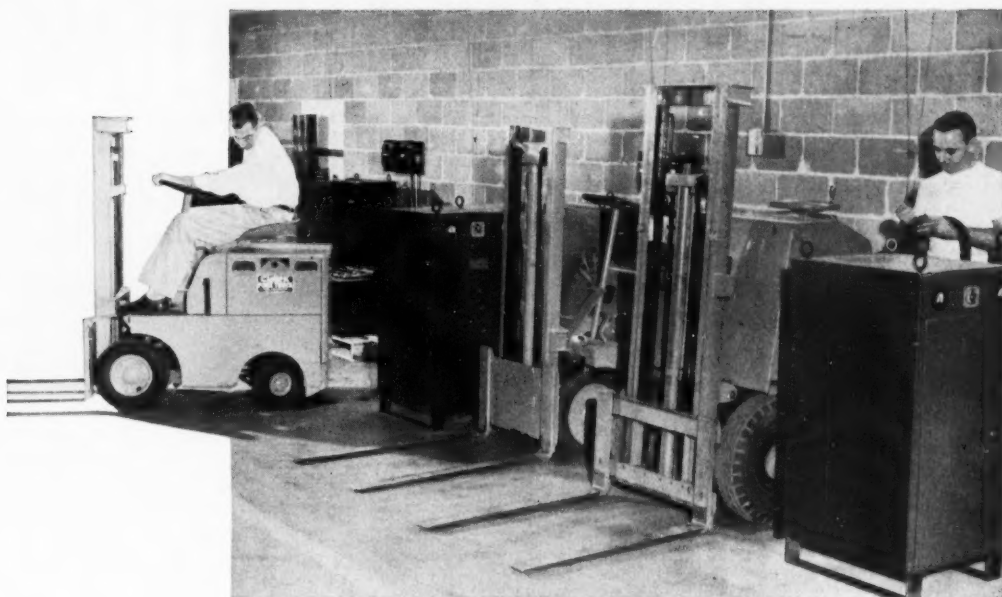
Circle 15 on Reader Service Card

Cutting Rail Costs

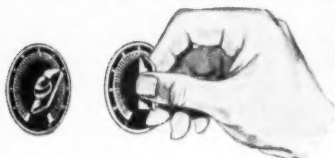
Evans Products Co. is confident that its new booklet will enable industrialists reading it to lower their rail costs substantially. The literature describes Evans' DF Loader, which is permanently built into cars supplied by the railroads. There is nothing more for the shippers to buy when they specify cars with DF equipment. Their shipments are safe from damage and loading costs are reduced.

Circle 20 on Reader Service Card

Circle No. 133 on Reader Service Card for more information



Simply flip a switch and twist a dial for automatic battery charging



Battery charging becomes a simple operation with Westinghouse Rectox® Chargers servicing your trucks.

Rectox Chargers can charge either lead-acid or nickel-alkaline batteries and the specific charging cycle is selected by merely flicking a switch. As for the charging rate—it's speedily chosen with dials. All else in the charging cycle is completely automatic. There are no taps to change! It's really a fuss-free, time-saving operation.

Simplicity keynotes the Westinghouse

Chargers. There is no installation cost—just connect into your a-c line. No foundations required. With but one moving part, a cooling fan, *maintenance* of Rectox Chargers is practically eliminated.

Particularly suited for *on-the-spot* charging, Rectox units eliminate wasteful runs to central charging stations, and increase truck availability.

Ask your Westinghouse Representative for full information, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-21795

YOU CAN BE SURE...IF IT'S
Westinghouse



Circle No. 77 on Reader Service Card for more information

MODERN TIME and COST SAVERS BUILT BY...



"Power-Package" unit for roller and belt conveyors HANDIDRIVE

These self-contained drive units provide tractive power for any gravity conveyor — belt or roller — convert present gravity conveyors to live or powered belt or roller — quickly at low cost.

Can be used as extensions to present conveyors, as individual conveyor units, or to build a complete flow system of belt, line roller, and gravity conveyors. Flexible and adaptable. Write for Bulletin 63-B, address Dept. FL-43



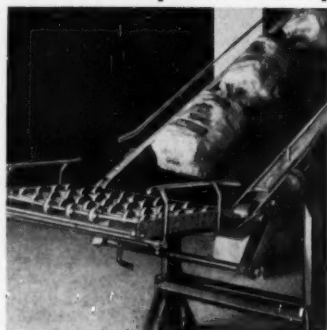
Save time loading-unloading with the E-X-T-E-N-D-O-V-E-Y-O-R

This compact, mobile, easily maneuverable power-belt conveyor unit extends to 46 ft. in either direction and retracts to 9 ft. 10 in. Reaches into cars, trucks, trailers. Handles boxes, bags, bundles, cartons, crates, cases weighing up to 150 lbs. Available in two models — 1 way stretch and 2 way stretch — and 5 sizes. Write for Extenderveyor Bulletin — address Dept. FL-43



Lift or Lower-floor to floor-or convey horizontally ...with a Standard UTILITY BELT-VEYOR

Move boxes — cartons — crates — sacks and bundles from basement to first floor, or any floor to floor, or convey in a straight line — continuously with the Standard UTILITY BELT-VEYOR. A compact, pre-engineered unit, easy to install (over existing stairways where practical) handles commodities up to 150 lbs. — available in 4 belt widths — 10, 14, 20 and 24 inch — and equipped with adjustable guard rails to facilitate handling packages wider than belt. Electric motor operated. Write for Bulletin 63B. Address Dept. FL-43



Load-Unload-stack-or elevate...with the HANDIPILER

—designed for loading, unloading, stacking and elevating sacks, boxes, cases and cartons. Reversible apron — conveys up or down. Built in 14 and 24 inch widths; boom is designed to pile cartons up to 17 ft. — sacks to 12 ft. — projects into cars, trucks, trailers. Handles commodities up to 135 lbs. Write for Bulletin 63B — Address Dept. FL-43



STANDARD CONVEYOR COMPANY

General Offices: North St. Paul 9, Minnesota
Sales and Service in Principal Cities

Send for Standard
Bulletin 63B describing
the above and
other portable con-
veyor units.



Circle No. 64 on Reader Service Card for more information

AD LITERATURE

Continued

Both Strong and Light

Honeyman Mfg. Co. in its descriptive folder points out the two most favorable characteristics of its aluminum hand trucks. With load capacities up to 500 pounds, the truck itself weighs only 18½ pounds.

Circle 125 on Reader Service Card

Story About Chains

American Chain & Cable Co. invites requests for its Bulletin No. DH-314 which gives valuable information on the use of chains in any industrial capacity. It also cautions chain purchasers in selecting the proper chain to fit the job it must do.

Circle 2 on Reader Service Card

No Trick At All

Industrial battery charging has become a simple task, according to Westinghouse Electric Corp., at least in plants where Rectox Chargers have been installed. Literature describing the Rectox is available upon request and reveals how battery charging today merely calls for the flip of a switch and the twist of a dial. The rest is automatic.

Circle 77 on Reader Service Card

Versatile Handling Item

Floor cranes have been heralded as one of the most useful pieces of handling equipment available. Literature obtainable from Manzel describes the many jobs which may be handled by one man with a portable floor crane.

Circle 133 on Reader Service Card

Industrial Towing Unit

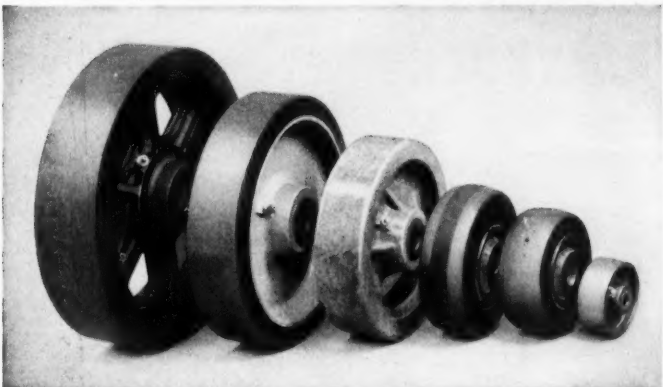
The Frank G. Hough Co. has available full information on its new TC-60 payload towing tractor with torque converter. The tractor is said to fill a need long neglected in industry. Its uses around train, truck and flight terminals also is said to be unparalleled.

Circle 121 on Reader Service Card

MATERIALS-HANDLING NEWS

★ Panel Discussions by Bassick, World's Largest Manufacturer of Casters and Floor Protection Equipment ★

Bassick Industrial Wheels in Varied Types, Sizes Keep Needed Materials on the Move



At the bottom of things in any well-planned, fast-moving industrial operation, you'll find a need for Bassick wheels. Available in a wide range of sizes and types to meet any requirement, Bassick Industrial Wheels make it easier to keep materials parts moving on schedule. They save manual effort because they roll easier and faster . . . save money because they're built to quality standards to deliver years of efficient performance.



Oncore

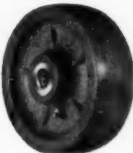
soft rubber tread vulcanized on high-strength semi-steel core. Roller bearings. Widely used wherever large-diameter wheels are required. Sizes: 5 to 16 in.



Alcore

soft rubber tread vulcanized on special aluminum alloy core for light weight, easier rolling. Ball or roller bearings. Sizes: 5 to 12 inches.

Canaphin
non-sparking solid wheel molded of mace-rated canvas and phenolic resin to resist severe shock, acids and extreme heat. Sizes: 3 to 8 in.



Baco
soft rubber tread molded and bonded by special vulcanization process to solid core. Eliminates tire changes, protects floors. Roller or self-lubricating bearings. Ideal for light and medium service. Sizes: 1½ to 8 in.



Atlasite

solid tread molded of special rubber and fiber compound. Carrying capacity equals that of metal wheels, with less floor wear and noise. Resistant to water, oil and most acids. Roller or self-lubricating bearings. Sizes: 1½ to 8 in.



Biron

precision-made from powdered iron. Oil-impregnated self-lubricating bearings. The highest quality small metal wheels. Sizes: 1½ to 3 in.

Great-Grandpappy of The Modern Wheel



Big wheels, little wheels, wheels within wheels all stem from this primitive prototype which was Stone Age man's first attempt at materials-handling. Nobody knows who first discovered that it's easier to pull or push a load than carry it, but he set mankind on the road to progress when he hit upon the idea of using tree-trunks as rollers. Next stage in the history of the wheel was the solid wooden disc, followed around 1800 BC by the spoked wheel.

Still the basic working shape of our civilization, the wheel today is used in practically every kind of materials-handling equipment. Bassick industrial wheels are manufactured in a large variety of materials, sizes and capacities for use either as wheels or in casters. In both assignments, Bassick wheels roll fast and easily, and stand up under the toughest operating conditions.

To help keep your production rolling, call your Bassick industrial distributor for recommendations on the best Bassick wheel for the job. Or write directly to Bassick at the address below.



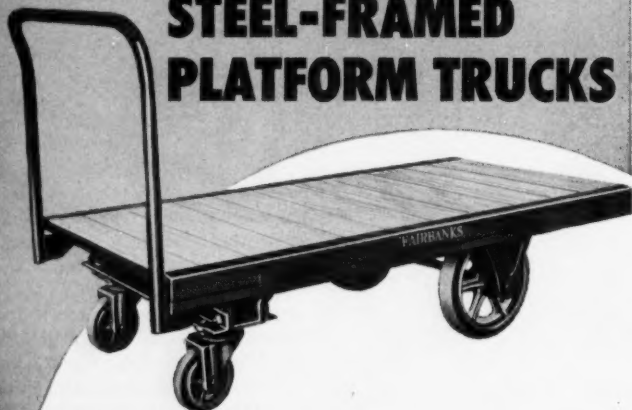
THE BASSICK
COMPANY
Bridgeport 2, Conn.
In Canada:
Belleville, Ont.

Bassick **STEWART**
A DIVISION OF **SU**
MAKING MORE KINDS OF CASTERS... MAKING CASTERS DO MORE

Circle No. 93 on Reader Service Card for more information

TAKE THE **LOAD** OFF YOUR MIND

with **Fairbanks®**
**STEEL-FRAMED
PLATFORM TRUCKS**



Load 'em high...treat 'em rough...Fairbanks steel-framed trucks always come back for more. Tough select oak platform, bolted to a sturdy steel frame, mounted on famous smooth-running Fairbanks swivel casters...give you low cost service, mile after mile, year after year.



Series 21 **LOCK-WELD SWIVEL CASTERS** eliminate the greatest cause of caster failure: the king pin.

Fairbanks Steel-framed **HAND TRUCKS**...a type for every purpose...in every industry.



Circle No. 21 on Reader Service Card for more information

AD LITERATURE

Continued

Mark Your Products

A specification sheet and catalog may be obtained from Wm. A. Force & Co., Inc., describing its cycle numbering and marking machine. Numerous products, cans, packages, cards may be marked in various positions with dates, code numbers, serial numbers and other identification.

Circle 114 on Reader Service Card

Conveyors Speed Shipping

Throughout the manufacturing plant, production and shipping functions can be speeded up through the efficient use of various types of conveyor lines. Bulletin No. 60 which may be obtained from the E. W. Buschman Co. provides many pointers toward up-to-date conveyor installations.

Circle 97 on Reader Service Card

Tape is Cheaper

Sealing corrugated fibre shipping containers with gummed tape considerably reduces the cost of your packaging operation, according to literature available from Mid-States Gummed Paper Co. A free sample and literature describing its Tape-Strap is available upon request.

Circle 135 on Reader Service Card

The Higher, the Better

Descriptive material concerning Baldwin-Lima-Hamilton Corporation's 34-T crane maintains that no job is too tough for it to handle. On construction jobs it can be employed to lift well over 100 feet into the air. Full information may be obtained on request.

Circle 92 on Reader Service Card

Bulk Handling Baskets

A new bulletin F3 is now available from Hoffman Co. It describes numerous materials handling aids including Hoff Crafter trucks, racks, dollies, trays and baskets. Besides many standard models Hoffman Co. will manufacture to suit individual requirements of any customer.

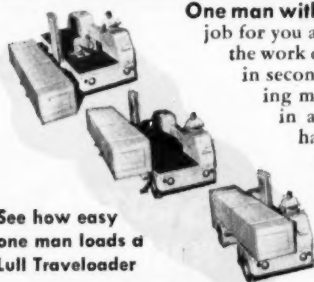
Circle 119 on Reader Service Card

(Continued on page 99)



One man with the Lull side-loading Traveloader will do a remarkable material handling job for you at costs far lower than you are now paying. The Traveloader actually does the work of two or more fork lift trucks as well as a carrier. It loads itself from the side in seconds, then carries the load to storage or to the job unloading itself and stacking material up to 12' heights. It can perform all of these jobs while operating in aisles as narrow as ten feet. The Traveloader is especially adapted for handling long, heavy material such as steel stock, pipe and lumber, but can easily handle huge quantities of bulky, assorted packages at one time by means of large master pallet attachments.

See how easy
one man loads a
Lull Traveloader



Lull Traveloaders are available in 5,000, 10,000 and 15,000 pound capacities and may be equipped with attachments which include material handling forks, crane hooks, master pallets and rams.

BAKER-LULL CORPORATION
(A subsidiary of Baker-Raulang Co.)
346 W. 90th St., Minneapolis 20, Minn.
Send us the Lull Traveloader catalog AD-30B.

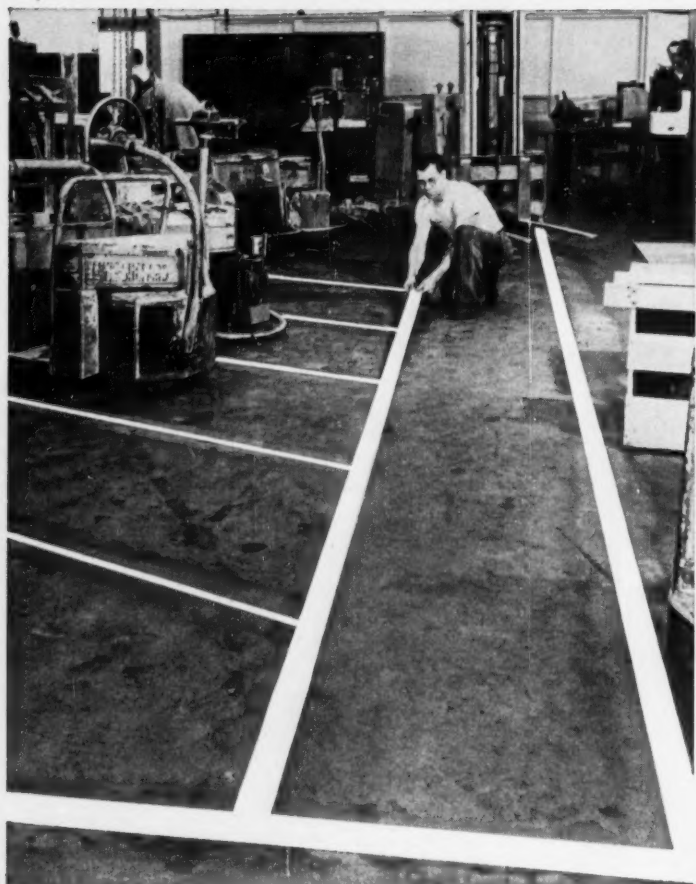
NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

Export Office: 105 West 4th St., Cincinnati 2, Ohio Cable Address: "Rapier"

Write to us now for this
catalog AD-30B which
shows Lull Traveloader
applications and speci-
fications.



Circle No. 91 on Reader Service Card for more information



New tape for lane marking lasts 5 times longer!

Now you can mark traffic lanes, storage and safety areas in a hurry—with "Scotch" Pressure-Sensitive Tape No. 471. It lasts 5 times longer than conventional materials.

Tape is easy and quick to apply. No special equipment needed. The pressure-sensitive adhesive sticks at a touch to any clean, dry surface free of oil and grease. And the more you walk on it, the tighter it sticks.

There's no "drying time" with tape, either, no slow-down of production—just clean the floor, put it down, adhere firmly with roller or wide-wheel truck—that's all there is to it!

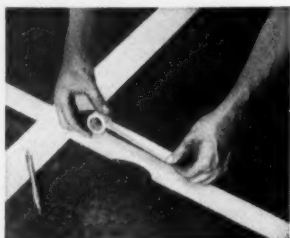
"Scotch" Pressure-Sensitive Tape No. 471 is available in 8 colors: Yellow, White, Red, Orange, Blue, Green, Brown and Black. Storage areas can be easily identified, proper contrasts formed between floor and marking. Easy to patch, too—colors match the original.

This unusual plastic film tape is available in rolls which are 36 yards in length—2 in. and 3 in. widths are the popular lane marking sizes.

For more complete facts and technical information write Minnesota Mining & Mfg. Co., Dept. F-43, St. Paul 6, Minnesota.



READY FOR IMMEDIATE USE! Heavy trucks have little effect on the abrasion-resistant backing of "Scotch" Pressure-Sensitive Tape No. 471. Vinyl plastic is unaffected by acids, oils, greases, alkalis, water, salts and common commercial solvents.



PATCHING damaged areas is a cinch with "Scotch" Pressure-Sensitive Tape No. 471. Lane marking and safety area designation can be kept neater, cleaner with far less trouble than with conventional materials. No smeared lines.



SEE HOW IT LASTS! This photo shows you "Scotch" Pressure-Sensitive Tape No. 471 many months after application to the floor. Color and visibility are still good. Users report this tough tape outwears other materials 5 to 1!



The term "Scotch" and the plaid design are registered trademarks for the more than 200 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.



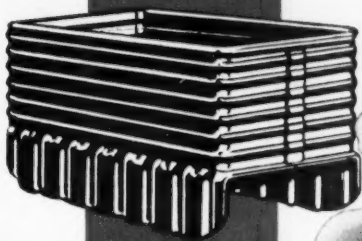
Circle No. 136 on Reader Service Card for more information

symbol of materials handling know how

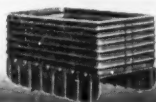
Pioneer in the development of better materials handling methods, the Powell Pressed Steel Co., and their representatives throughout the United States, have spent more than 30 years designing, building, selling and servicing the most efficient line of boxes, pallets and platforms made. It was Powell who originated the modern cold formed steel equipment, and it was Powell who developed "built for the job" equipment that has done so much to lower handling costs.

When next you are in the market for handling containers of any description look for the symbol pictured here — it signifies the finest in product and service.

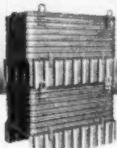
POWELL PRESSED STEEL



SINCE 1920



WELDED BOX
PLATFORM



CRANE TIERING
WELDED BOX PLATFORM



LIFT TRUCK
PLATFORM



PALLET



NESTEL Pallet

THE POWELL PRESSED STEEL CO., HUBBARD, OHIO
Originators of All Steel Cold Formed Materials Handling Equipment



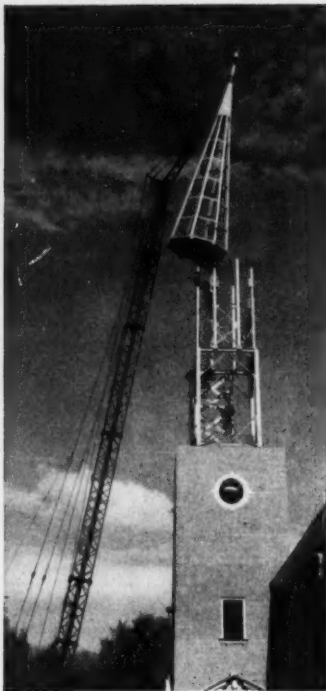
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NO MATTER WHAT THE JOB— You can do it better with a versatile LIMA

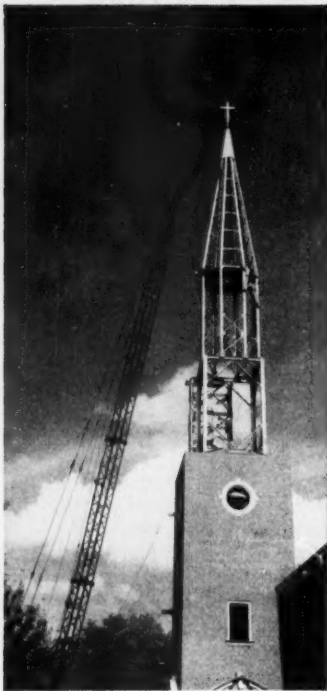


Photos courtesy of Roanoke Times, Roanoke, Va.

● Lima 34-T crane lifting 32-foot, 5½-ton rectangular and octagonal shaped section in place on brick base.



● Next the 2,800-pound cone is raised to its spot on top of the lower section of the steeple.



● Note the switch in direction of the 5-foot cross . . . a last minute change.

A precision job like this one calls for the smooth, sure operation that their Lima 34-T crane gives Hawkins and Cox, Roanoke steel erectors. The seven-ton steeple for the new First Methodist Church in Salem, Va., had to be lifted to 120-feet above ground. This was done effortlessly by the reliable Lima Paymaster Truck Crane.

The crucial test came when a caucus of watching Methodists decided the cross ought to point North-South so that the sun would shine on its faces. Although he had only a few inches of cable left, the

crane operator deftly lifted the entire cone enough so that it could be given a half turn and lowered into place with the sun smiling on the cross.

And anywhere under the sun, you'll find Lima cranes and shovels taking in stride a myriad of diverse tasks. *You*, too, can count on a Lima shovel (¾ to 6-yards) or crane (up to 110-tons) for any job. If you'll drop us a line, we'll gladly suggest the Lima machine that will give you highest capacity and lowest operating cost for your regular or special work.

SALES AGENTS IN PRINCIPAL CITIES OF THE WORLD

LIMA

SHOVELS • CRANES
DRAGLINES • PULLSHOVELS



Construction Equipment Division

BALDWIN-LIMA-HAMILTON CORPORATION
Construction Equipment Division
LIMA, OHIO, U.S.A.

Circle No. 92 on Reader Service Card for more information

Evils of low temperature— intermittent engine operation

- Exhaust smoking
- Oil screen plugging
- Crankcase and valve chamber sludge
- Sticking valves and plugged oil rings
- Rapid wear of critical moving parts

"You havin'
troubles
too?"

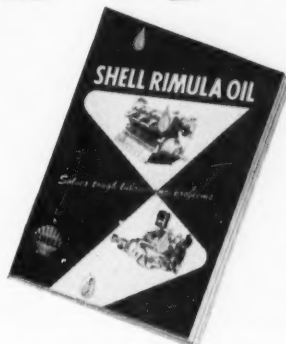
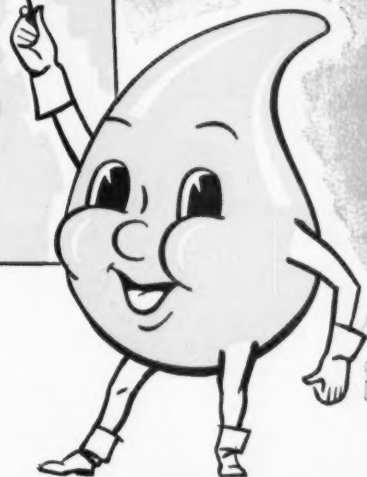
**"Read about the oil that
laughs at 'em!"**

THE engines that do our modern moving and shifting chores around the plant take more of a beating than meets the eye. Lift trucks are a good example. They idle much of the time . . . start and stop and work and loaf, week in and week out. That's the service that brings on the complaints listed.

Shell has met this problem with a special lubricating oil that literally clears these evils out of the picture. Shell Rimula Oil takes care of any of them . . . or any combination of them.

This is the product with a service record adding up to hundreds of thousands of miles . . . in delivery truck operation; in diesel and gasoline engines, both automotive and stationary; on construction projects; in farm machinery; in numerous plants.

Shell Rimula Oil is setting new standards of performance in low temperature—intermittent engine operation. Try it and see!



For further information on the cost-cutting advantages of Shell Rimula Oil, write Shell Oil Company, 50 West 50th St., New York 20, N. Y. —or, 100 Bush St., San Francisco 6, California.

SHELL RIMULA OIL



Circle No. 68 on Reader Service Card for more information

MOBILIFT "stand-ups"

Stand Out!



MOBILIFT Stand-Up type Fork Lift Trucks Stand Out for efficient, low cost materials handling in warehouses, terminals and plants because they get more work done faster.

Here's Why:

- 1** The operator gets on and off an ample size platform in a second or two. He works standing up — has maximum all around visibility.
- 2** MOBILIFTS are fast and agile. Compact design, short over-all length. 360° steering mechanism makes ZERO inner turning radius and 57" outer turning radius possible (2,000-lb. Model "E"). MOBILIFTS are long-time favorites for close, congested working areas.
- 3** LEV-R-MATIC push-pull controls speed all movements. NO GEARS TO SHIFT . . . push-pull levers for forward-back movements, elevating and tilting.
- 4** MOBILIFT air-cooled 3-cylinder engine delivers abundant, reliable power. It's compact, precision-balanced and accessible for economical operation with minimum repair and service.



Let a MOBILIFT Sales Engineer show you why MOBILIFT Stand-Ups in your business will Stand Out!

Write or wire MOBILIFT for complete information today . . . No obligation of course.



MOBILIFT CORPORATION

835 S. E. Main Street • Portland 14, Oregon

2317 W. 18th, CHICAGO • 790 Portman Ave., E. RUTHERFORD, N. J. • 2724 Taylor St., DALLAS
2730 San Pablo Ave., BERKELEY • 1115 Spring St. N. W., ATLANTA

Circle No. 49 on Reader Service Card for more information

FLOW • APRIL, 1953

The Relation of Good Lighting to . . .

Efficient Handling . . .

Light-up the way to better material handling in your plant. The initial cost of a well planned, over-all lighting system will be more than offset in a relatively short time by the faster, safer handling which will result. This first article in a two-part series discusses the need for good lighting for material handling functions, and gives some ideas on how to get it.

SEEING takes time . . . valuable man-hours of production time. The eye can be compared to a camera; under poor lighting conditions, it requires considerably more time to do its job than under good light.

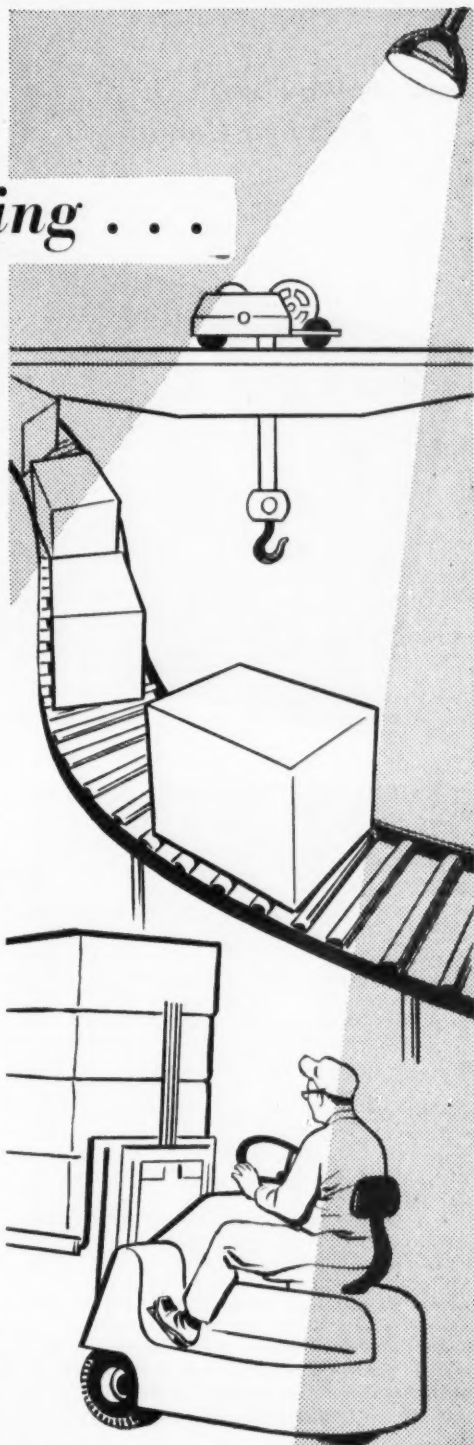
Laboratory tests under controlled conditions have proven that an increase in lighting from one footcandle to relatively moderate levels of about 20 footcandles results in increased speed of seeing by approximately three times. It isn't hard to visualize the results which this three-times-faster seeing will have on material functions in any plant.

The designers and manufacturers of material handling equipment have made tremendous strides in recent years, developing equipment which greatly speeds up handling. This progress continues daily. In many cases, better lighting will go far toward guaranteeing that maximum use is being derived from high-speed handling equipment.

Safe Handling

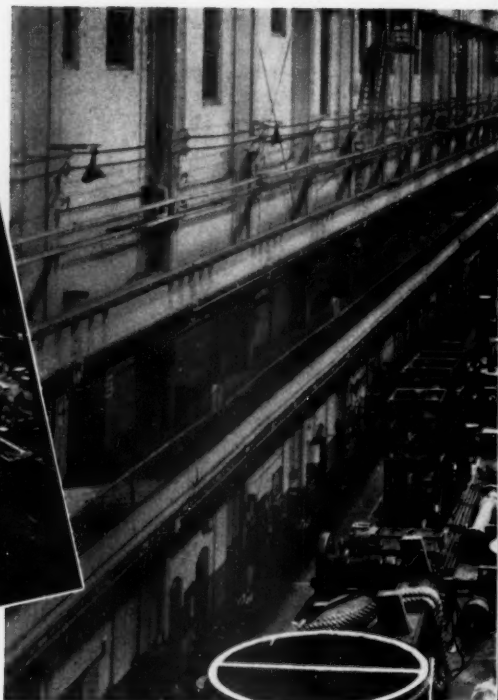
The effect which improved lighting has on safety in handling, and in all other operations in a plant, cannot be minimized. Poor lighting can be listed somewhere under *Cause*, for one out of every four industrial accidents. It may not be the primary cause every time, but you'll find that the lack of light was a factor behind many slips and falls, and other injuries which have occurred.

There are more subtle dangers of inadequate illu-



Good Lighting . . .

Efficient Handling . . .



mination. A definite correlation exists between lighting levels and expenditure of nervous energy. Being able to see well, a worker is more relaxed; he has fewer headaches, produces more product better and faster.

At Allis-Chalmers Mfg. Co.'s Milwaukee Erection Shop, lighting level was recently increased from five to 20 footcandles. The result was a drop of 32% in the frequency of accidents. Then, to get full efficiency from the new lighting, the company painted the shop a color designed to get better light usage and more favorable brightness contrast. After the painting, the accident rate dropped another 11%. Now workers can see better and also see more comfortably. The total decrease in accident rate has been 43%.

What Is Good Lighting?

A good lighting plan frees your hand. It permits you to make needed improvements in the arrangement of production machinery, conveyors, cranes, hoists, and other handling equipment. It eliminates your dependence upon outdoor light sources and lets you make the most efficient use of your entire floor areas.

After a decision has been made to improve the lighting in a plant, a complete study of the objectives and needs based upon an analysis of the seeing tasks

(More on page 64)

RECOMMENDED LEVELS OF

<p>100 ft-c or more</p>	<p>MOST DIFFICULT SEEING TASKS Finest Precision Work Involving Finest Detail Poor Contrasts Long Periods of Time such as Extra-fine Assembly, Precision Grading Extra-fine Finishing</p>
<p>100 ft-c</p>	<p>VERY DIFFICULT SEEING TASKS Precision Work Involving Fine Detail Fair Contrasts Long Periods of Time such as Fine Assembly, High-Speed Work Fine Finishing</p>
<p>50 ft-c</p>	<p>DIFFICULT AND CRITICAL SEEING TASKS Prolonged Work Involving Fine Detail Moderate Contrasts Long Periods of Time such as Ordinary Bench Work and Assembly, Machine Shop Work, Finishing of Medium-to-Fine Parts, Office Work</p>



. . . Continued

ACCIDENT RATE was reduced 43% at the Milwaukee Erection Shop of Allis-Chalmers Mfg. Co. when new lighting was installed and the plant was painted. Ceiling of the plant is light-blue, the sidewalls light green and wall dado is a medium green. Cranes are painted yellow. Lamps used in the installation are a combination of mercury-vapor and filament.

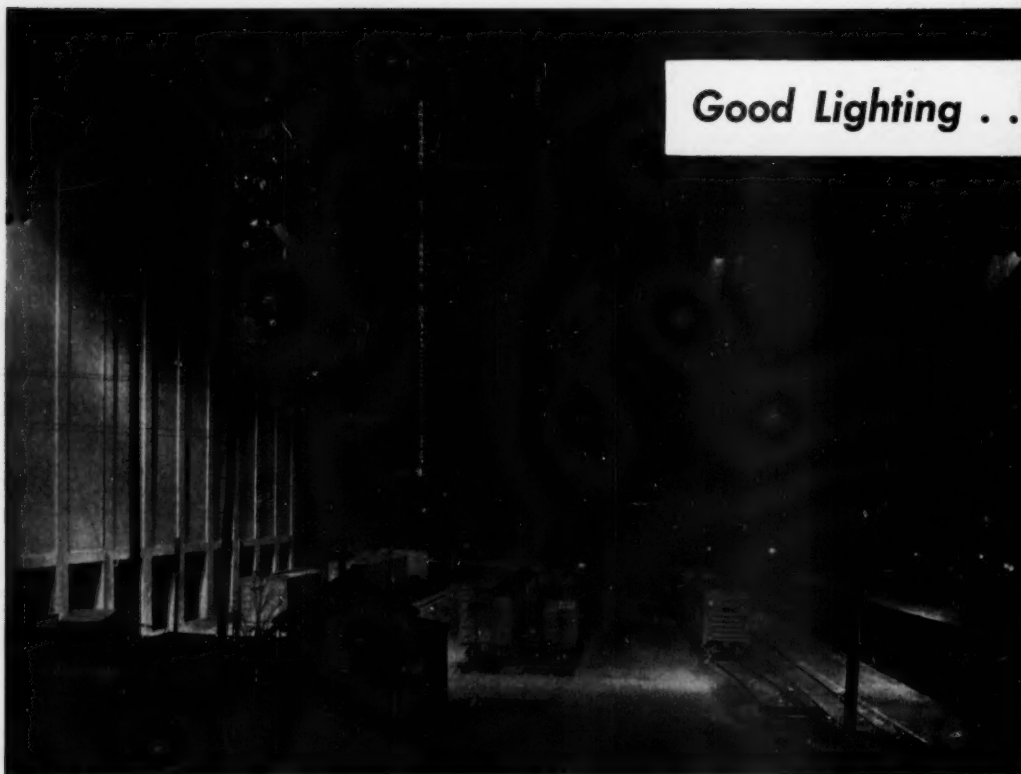
GENERAL ILLUMINATION

<p>30 ft-c</p>	<p>ORDINARY SEEING TASKS Involving Moderately Fine Detail Normal Contrasts Intermittent Periods of Time such as Automatic Machine Operation, Rough Grading, Garage Work Areas, Switchboards, Continuous Processes, Conference and File Rooms</p>
<p>10 ft-c</p>	<p>CASUAL SEEING TASKS such as Forge and Welding Shops, Stairways, Reception Rooms, Washrooms and other Service Areas, Active Storage</p>
<p>5 ft-c</p>	<p>ROUGH SEEING TASKS such as Hallways, Corridors, Passageways, Inactive Storage *Minimum Footcandles in Service (On Task or 30 inches above Floor) * Minimum Footcandles in Service (On Task or 30 inches above Floor)</p>

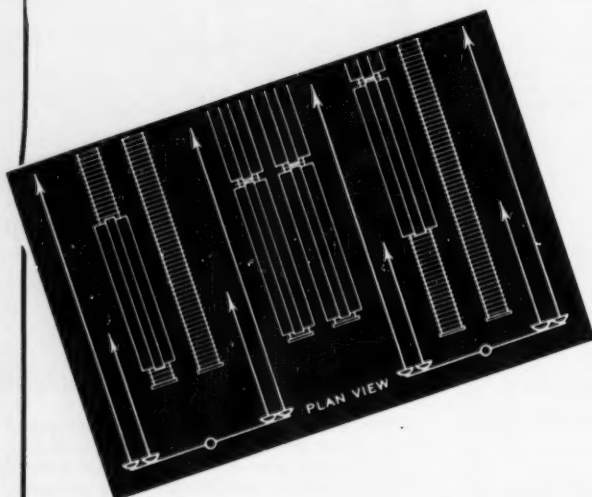


HIGH BAY LIGHTING can be accomplished with high-output lamps like mercury-vapor and high wattage incandescent. Lack of shadows in this plant make material handling considerably faster and safer.

Good Lighting . .



Don't Neglect Lighting of Outdoor Areas . . .



SHIPPING AREAS with parked trailers, boxcars, piles of material, storage sheds, etc. can have danger-filled shadows unless good lighting procedures like the above are followed. The plan view at left shows placement of lights in the yard above. In storage areas like the one at right, the job of stacking and removing materials from storage at night is greatly simplified by the use of proper lighting. Banks of lights can be mounted on nearby buildings or on poles. Often, the poles are placed in spots within the storage area itself and arranged so as to further reduce shadows. The use of many lower wattage lights per pole is recommended rather than a few high wattage lights, to reduce the effect of burnouts.

Efficient Handling

throughout, should be made. Lighting is simply a means to an end. When an industrial plant purchases lighting, it is really purchasing conditions that make good seeing possible. Therefore, the lighting of any industrial operation must be considered in relation to the visual tasks to be performed.

Two important factors to be considered in the planning of a lighting arrangement for a plant are: 1. the size of the critical details which must be seen, and 2. the brightness contrast between these details and their surroundings.

The worker who must see small parts of a watch or small elements of the grid of a radio tube, for example, requires especially good lighting. The nature of his work is the deciding element in this case, and has an important bearing on the type of lighting which will be used.

It is not comfortable to look at the sun, neither is it comfortable to look at a sheet of water glistening in the bright sunshine. In looking at the sun, direct glare is encountered. In looking at the sheet of water in the

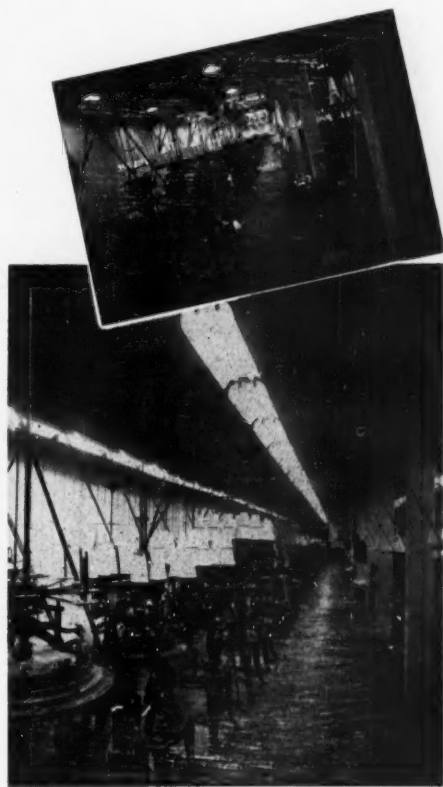
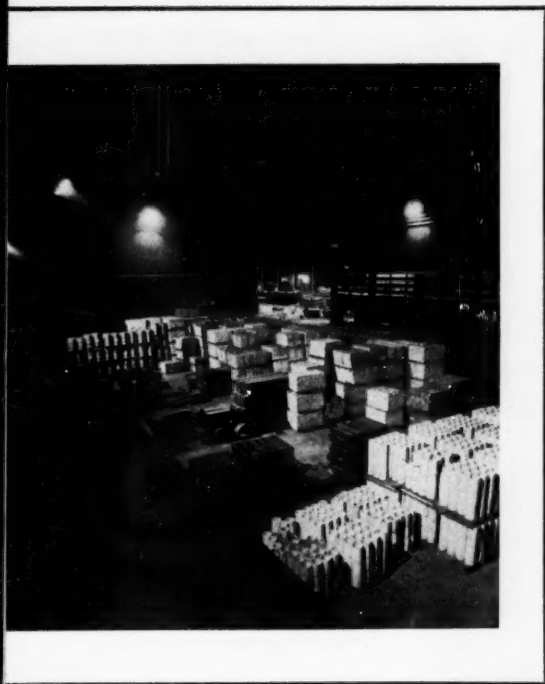
bright sunshine, reflected glare is experienced. Both are uncomfortable and cause one instinctively to avert his eyes.

Reflected glare is often more objectionable than direct glare, however, and quite frequently more harmful, because it is generally from a direction below the horizontal, a zone in which the eye has no natural protection. Reflected glare results from:

1. The use of equipment that does not diffuse light sufficiently to reduce its brightness when the reflected image is seen in the task.
2. Improper location of supplementary lighting equipment which permits bright reflections of the source to reach the eye.

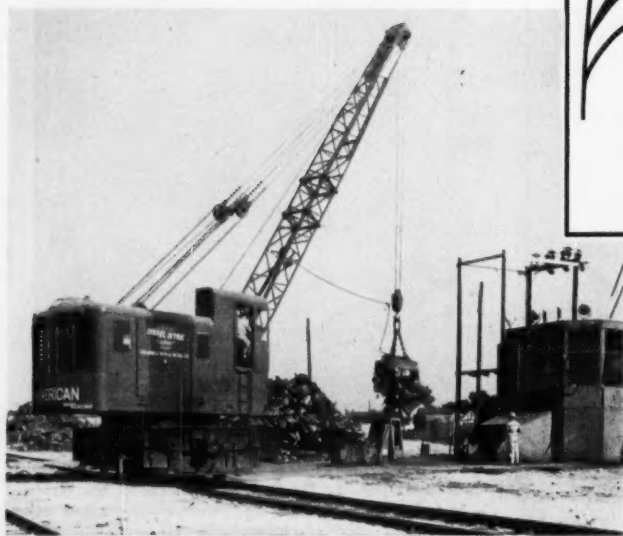
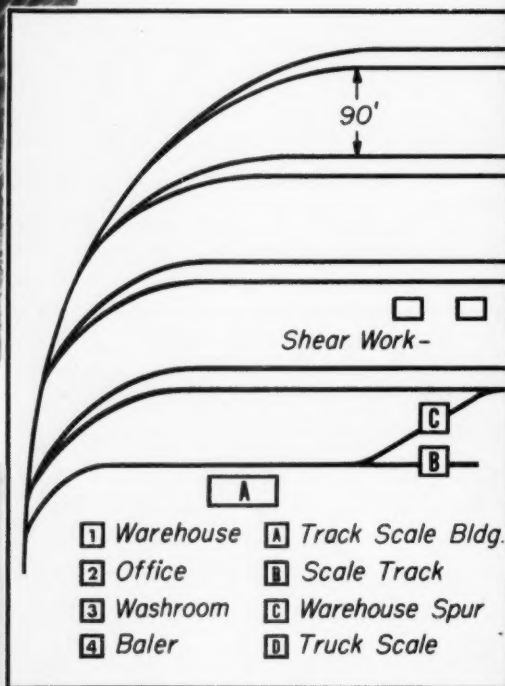
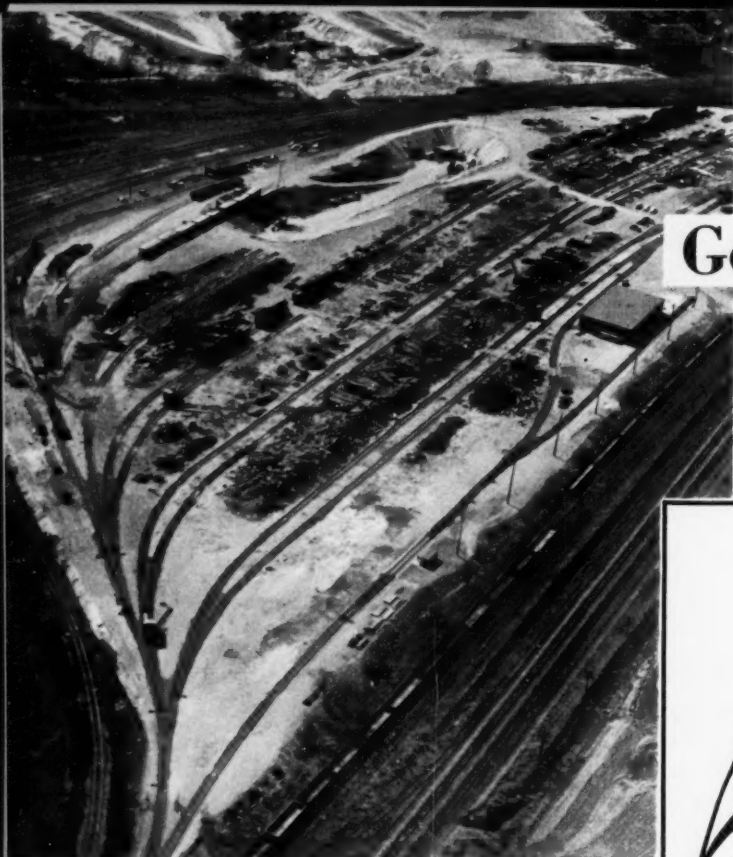
When bright light sources or other bright areas are reflected into the eyes of workers from the work or surrounding shiny surfaces, they interfere with seeing and reduce the efficiency of the entire plant. The re-

(Continued on page 101)



LOW BAY LIGHTING can be greatly improved through the use of a large number of relatively low wattage lights like the fluorescent lamps in the textile plant shown above. Once dangerous aisles are now well lighted and speedy, economical handling results.

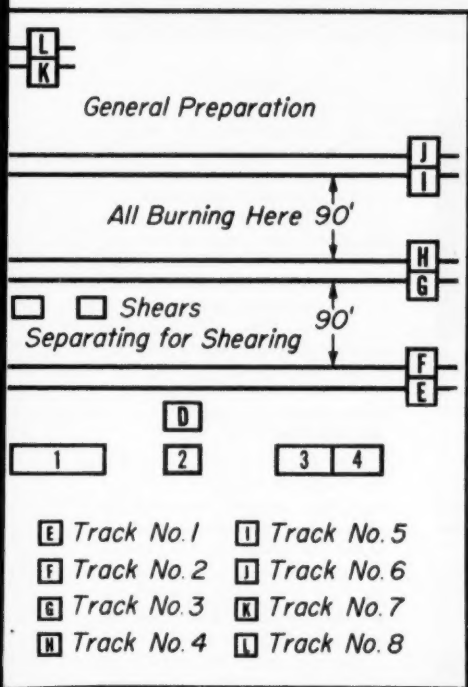
Good Planning



WELL-PLANNED layout of the 28-acre scrap preparation yard is emphasized by the aerial view and diagram (top left and above). Four miles of track serve designated areas. At left, one of the large diesel-electric cranes is shown feeding scrap into the hopper of a huge baling press.

Makes A Big Difference

IN THIS SCRAP PREPARATION YARD



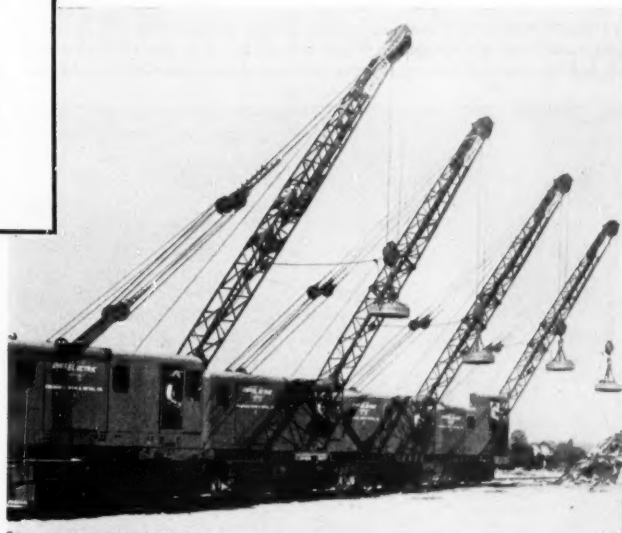
A REMARKABLE degree of handling efficiency has been achieved at the scrap preparation yard of the Columbia Iron & Metal Co., Girard (Youngstown), Ohio. The yard, one of the largest and most modern to be found anywhere, was originally planned with every detail in mind. The result is a scrap preparation yard which is almost unique in its approach to modern handling techniques. Lengths of moves and numbers of individual handlings have been greatly reduced.

The 28-acre tract was planned by experts specifically for its role as a scrap preparation yard. Land was graded according to operations which would take place in various areas and to permit ease of travel when the locomotive cranes which are used for all handling doubled for switching of rail cars.

The yard is 2700 ft. long and about 600 ft. wide. All railroad tracks which serve the various sections of the yard are laid out in pairs running north and south, the length of the yard. There is a total of over four

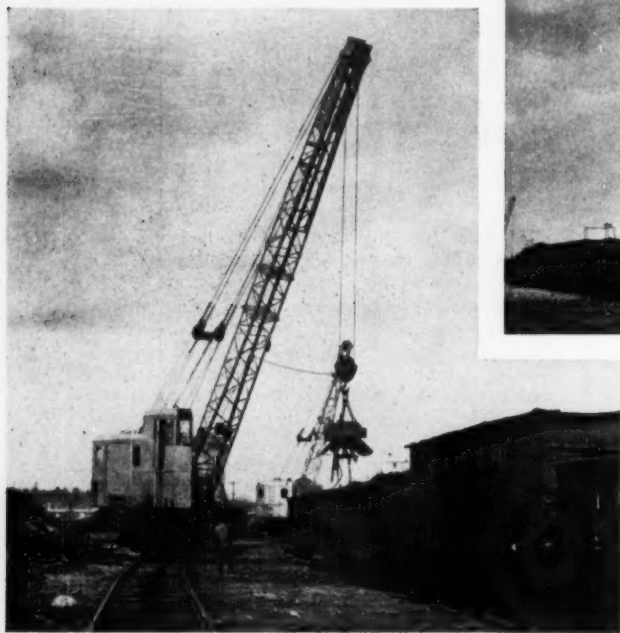
(More on next page)

LOCOMOTIVE CRANES (right), equipped with 55-inch magnets, are used for all handling and switching operations. Tracks are laid out in pairs so that the 40-ton-capacity cranes, which have 55-foot booms, can travel between strings of cars during loading and unloading operations.



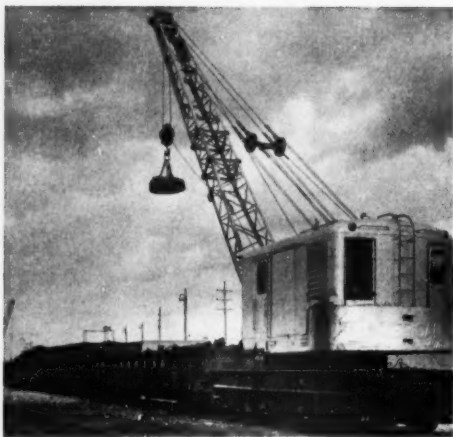
GOOD PLANNING

Continued



GONDOLA CARS are loaded by locomotive crane equipped with magnet (above). Cranes are on separate sets of tracks so they can travel back and forth easily. Serving double duty, the crane also switches cars (top right).

ALLIGATOR SHEARS are arranged in groups of two, with one having a right hand feed, the other a left hand feed. Scrap is fed to each shear, cut, fed to a central take-away area between shears, removed by magnet.



miles of track.

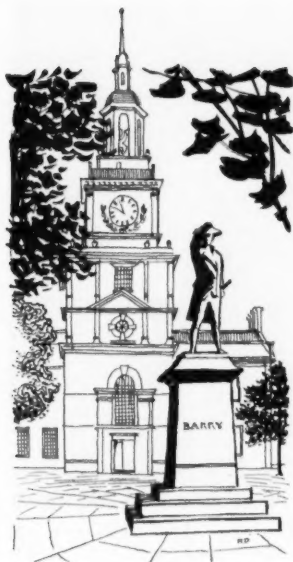
As illustrated by the accompanying sketch, tracks enter the yard at one end, then branch into the various lines. Spur tracks connect each pair of tracks and one large spur line connects two sets of tracks near the weighing house. The railroad scale in the yard has a 71-ft. platform and a capacity of 200 tons. The truck scale has a 54 ft. platform and a capacity of 50 tons.

Locomotive Cranes do All Handling

Five 40-ton-capacity diesel-electric locomotive cranes, equipped with 55-in. magnets, are used for all handling and switching operations. The tracks are laid out in pairs so that the cranes, which have 55 ft. booms can travel beside strings of cars during loading and unloading operations.

As shown in the layout diagram, the tracks serve designated areas within the yard where specified operations are performed. Note that baling is done in one area, shearing in another, cutting in still other areas, etc. This type of layout is in marked contrast to most scrap yards. The fact that layout is so planned enables the company to move incoming scrap to one designated area where it is unloaded by the cranes, processed, then re-loaded back into cars and

(Continued on page 138)



THE SHOW

THE CONFERENCE

FLOW'S SHOW ISSUE

THE FIFTH NATIONAL

Material Handling Exposition . . .

MAY 18-22, 1953

The greatest show in the Material Handling World will open on May 18 in Philadelphia, and will run through May 22.

The Fifth National Material Handling Exposition will have nearly 300 companies exhibiting and well over 20,000 top material handling men and plant operating executives in attendance. The exposition proper, sponsored by the Material Handling Institute, will fill all six halls of Philadelphia's huge Convention Hall. Managing the show, is Clapp & Poliak, Inc., from whom reservations and other details can be obtained.

The exposition will be the largest industrial capital goods show to be held anywhere in the country during 1953, and the biggest such affair ever held in Philadelphia. Thousands of new models of material handling equipment, valued at more than \$10,000,000 will be on display.

A conference to deal with general problems of material handling will be held concurrently with the exposition by the American Material Handling Society. It has been described as a "workshop" for executives, and will include seminars on a host of important cost reducing subjects.

In short, the exposition and accompanying conferences will provide coverage of every kind of equipment and every method known for reducing material handling costs.

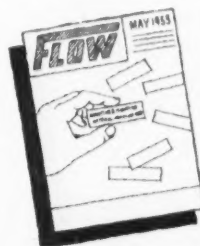
The May Show Issue of FLOW will carry this coverage of the subject of material handling costs even further. It will deal with what is probably the most important, yet most neglected phase of the problem . . . How to Figure Material Handling Costs.

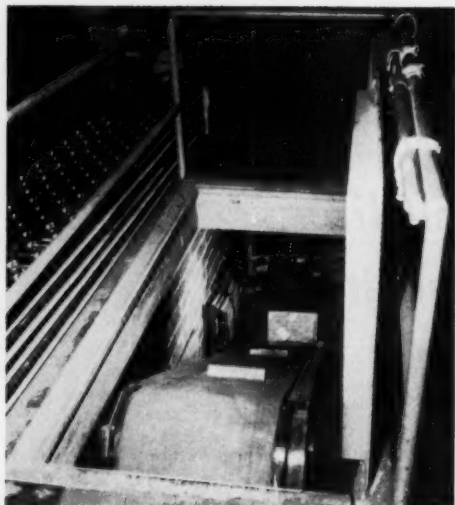
Before you can know for certain that all of your material handling costs are as low as they should be, you must have a good reliable method for accurately determining them. Ask yourself this question . . . "Can I select from all my operating costs, each of those which can be charged specifically to material handling?" Unless you have a ready answer, you are in danger of having excessive expenses hidden in your plant, and you cannot afford to miss the May issue of FLOW.

Top leaders in the industrial engineering field have been secured to contribute to this outstanding issue. They will tell how THEY figure their costs. They will reveal to you THEIR formulae for these cost determination methods.

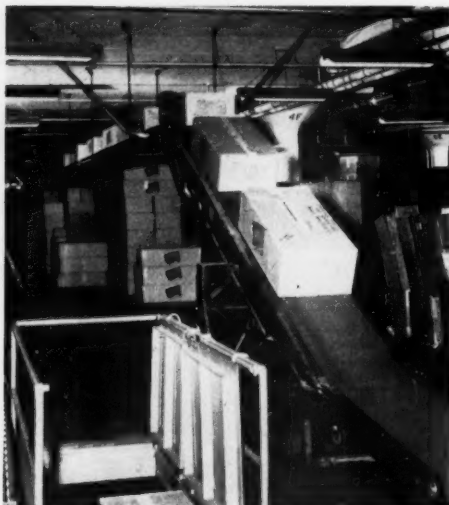
FLOW's May issue will stand among the most important material handling information ever published. It will be a fitting accompaniment to the great exposition which is to be held in Philadelphia.

Don't Miss Either of Them!





CLEATED belt conveyor carries packaged goods both ways on the incline between basement and main floor.



INCOMING shipments move via portable belt conveyor to horizontal belt suspended from ceiling.

Look over this . . .

Space-Saving Conveyor System..

ELMINATION OF FOOTWORK in the distribution of footwear is the feature most notable in the handling system of National Shoes, Inc., supply house for a chain of retail stores in metropolitan New York. Every box or carton that goes through the building travels in a system of coordinated conveyors—which include power belts, gravity rollers, wheels, and a “merry-go-round”.

As manufacturers' shipments arrive in large, bulky cartons, at one of five loading docks, they start their travel on belts. The first conveyor is a portable, adjustable, molded-surface belt unit that is generally stationed in position to carry cartons from trucks up to another belt conveyor. This one is horizontal and supported from the ceiling to get it off the floor, out of the way, and thus save valuable space. It delivers cartons to a roller conveyor, at right angles and 104 feet away, from which they are removed to stock shelves.

Nearby the portable conveyor at the loading dock is a hatchway into the basement where footwear for future seasons is stored. Another molded belt conveyor, inclined at something over 35 degrees, is equipped with wooden cleats to take cartons up or down according to seasonal needs.

Individual orders for the firm's retail stores are made up with the help of the “merry-go-round sorting

conveyor”. Oval shaped and ninety feet long, it consists of a train of metal trays, each supported by four ball bearing casters, moved by an endless chain beneath the sorting table.

Boxes, brought to the eight sorting stations in special four wheel, floor trucks, are marked with the number of a retail store and placed in the trays by sorters. Operators at five stations on the opposite side of the conveyor remove boxes according to store number and accumulate each order in a carton. (If an operator misses an order the first time it passes him, he can catch it on the next round.)

When an order has been completed, or when a carton for an individual store has been filled, it is placed on another belt conveyor adjacent to the accumulation stations. This horizontal belt, about 30 inches from the floor and close to the back wall, is 110 ft. long, 18 in. wide, and takes cartons to a right angle turn made by means of a short section of wheel conveyor. An 80 ft. belt then takes them to the checkers.

There, cartons travel on gravity roller conveyors inclined so that the merchandise can be stopped for checking and then moved along the conveyor with a slight push. After leaving the checking station, cartons travel along roller conveyors to the shipping department.



SORTING station where boxes are brought in special floor trucks. Note racks, on far side, for order cartons.



FILLED orders feed to checkers' roller conveyor by belt, then go to shipping department via wheel section.

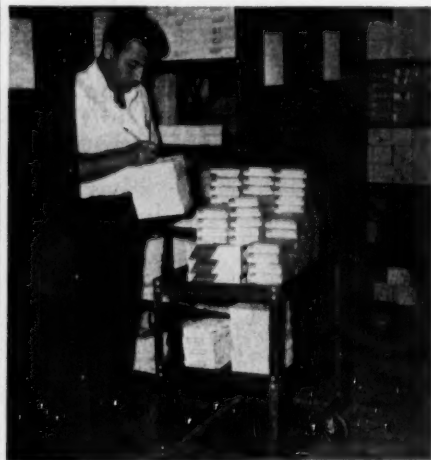
If you're short on room . . . or handle small or large packages

"MERRY-GO-ROUND" sorting conveyor carries boxes in castered trays moved by endless chain past loading stations on the right. Trays are unloaded on left side, and orders placed on a belt conveyor near the wall.





RECEIVING DOCK doubles as shipping dock and the permanent reversible belt conveyor is used to carry outgoing goods back upstairs. Only handling necessary is at trucks on the dock, and at the storage point in the basement.



THREE-SHELF CASTERED FLOOR TRUCK is used on the main floor for order picking. More than 6000 items are stocked by this company, and it has been estimated that this system cut handling costs 10% from those in old building.

Handling Costs Cut 50%

by handling system designed
as integral part of new building

The J. H. Gross & Co., Cleveland, a major jewelry wholesaler, used to be housed in a downtown office building with warehouse space in small rooms on four floors. It was extremely difficult for incoming highway trucks to park; the firm was dependent on one freight elevator which was not exclusively its own.

The handling steps necessary with these conditions: (1) unloading incoming carriers, (2) transport goods to the elevator and raise to upper floors, (3) transport to scattered stock locations.

The Present System

Very recently, the firm built a new one-story building outside the downtown area. Goods are now delivered to the rear door where a gravity roller conveyor is placed into the highway truck and joined to a permanent reversible belt conveyor which connects the rear door and the basement. The rear exit doubles as both a shipping and receiving location.

Clocks, appliances and other heavier goods are sent down the belt into the basement, then onto a gravity wheel conveyor which circles throughout the lower level. Goods are removed from the conveyor and stacked in their original cartons on the floor. When shipping, goods are replaced onto the conveyor and carried upstairs to the shipping door via the same belt conveyor.

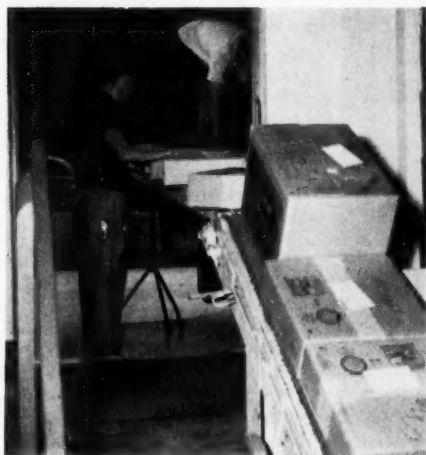
Jewelry, rings, and other light merchandise are moved from the receiving dock to first-floor bin storage in two-wheel hand trucks. For order picking, three-shelf castered floor trucks are used.

Benefits Are Many

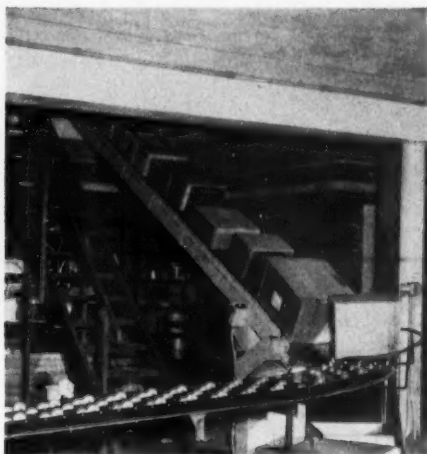
With more than 6000 different items stocked, the company is now able to handle incoming and outgoing merchandise quickly, effortlessly and economically. Only two steps are necessary during receiving (compared to three time-consuming operations before): (1) placing goods on the conveyor or hand truck, (2) transfer into storage.

In addition, departmentalized goods means faster order picking, more positive control over goods on hand, better service to customers. There is far less physical effort, less congestion, improved working conditions, faster more efficient handling, and very important, handling costs were decreased 50%.

RECEIVING



GRAVITY ROLLER CONVEYOR can be placed with one end inside delivery truck, or as in this instance, it can be mounted on a stand which is set adjacent to the end gate. Goods roll along gravity conveyor to a



REVERSIBLE BELT CONVEYOR which connects the receiving dock with the basement of the building. Downstairs, the cartons of merchandise move on a gravity roller conveyor to be removed onto a



PLATFORM TRUCK which is used to carry them a short distance to storage areas. Only the heavier items like clocks, toasters, and similar appliances are stored down in the basement. On the main floor, a



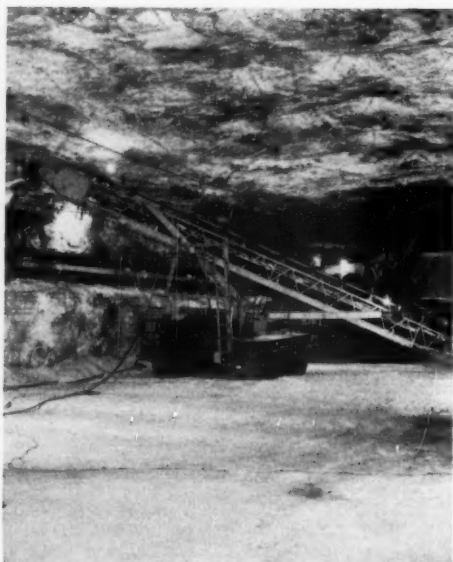
TWO-WHEEL HAND TRUCK is used for moving cartons of smaller items like jewelry, rings directly from the receiving dock to first floor storage bins. Goods are departmentalized for faster order picking, easier control.



CRAWLER MOUNTED CRANE loads salt (at the face) into an earth moving truck which is equipped with trolleys and industrial batteries. The truck is powered by battery in this part of the mine; when it gets into part of the mine where electric wires have been erected, it is operated by trolley. Salt is delivered to crusher which feeds to a . . .



LONG BELT CONVEYOR which is made up of a series of flights that travel throughout the many miles of underground tunnels. Conveyors assure continuous handling of large tonnages over vast distances. Storage is in abandoned areas. To reclaim the salt . . .



ELECTRIC POWERED SHOVELS load the material onto a crawler-mounted belt conveyor which returns it to the main conveyor belt. This transports salt to skip hoists which raise it to the surface. Capacity of each of the hoists used for raising salt is nine-tons.

Bulk

**Earth-moving Machinery,
Belt Conveyors, Reduce
Mining Operations at
International Salt Co.**

Handling . . . **UNDERGROUND**

GOOD material handling procedures have found their way down into underground mines. Their value is being proven repeatedly in the day-to-day operations in the mining of coal, salt and similar materials. The era of the underground rail car is rapidly coming to an end as more and more mines install heavy earth-moving machines and long conveyors.

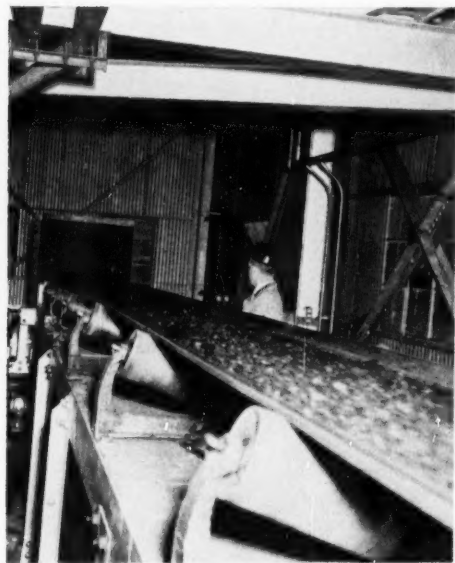
With old moving methods, it was not unusual to find a great deal of profit being lost through the time and effort required for laying track, filling comparatively small cars, hauling them long distances to unloading points, and then returning them when empty, to the digging areas.

A fine example of a mine where steps have been taken to bring efficient operation is the International Salt Co., Detroit. Reaching out like arms of a giant

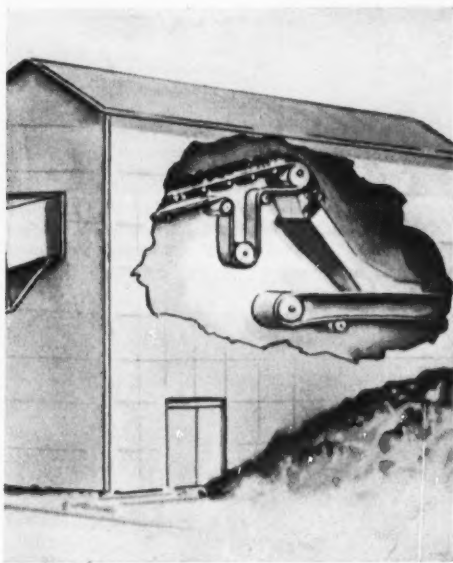
octopus under the city, the lengthy tunnels of the mine present a situation which could result in prohibitively costly and time-consuming handling. In this mine, mobile cranes, earth moving machinery and belt conveyors have practically reduced the job of mining salt to one of pushing buttons. Little time is wasted and the mine is operating more economically than was ever possible in the past.

An interesting sidelight to the use of heavy equipment in this mine concerns the task of lowering truck bodies and frames to the bottom by way of a comparatively small elevator. The large units were cut into sections small enough to fit on the elevator. After reaching the floor of the mine, they were welded back together and machines were again ready for use.

(More on next page)



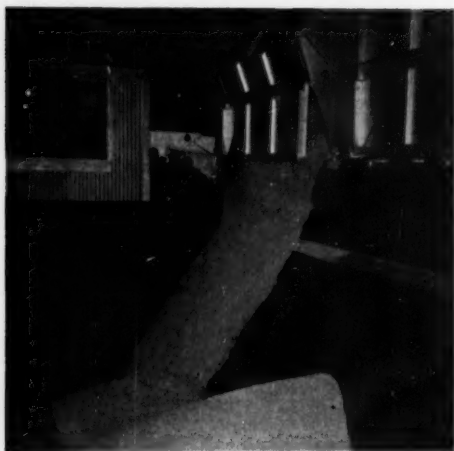
TROUGHED BELT CONVEYORS are widely used to transport coal and other bulk materials within and from mines to head houses, washing stations, screening areas, etc. The troughed design of the conveyors makes it possible to handle larger loads per conveyor.



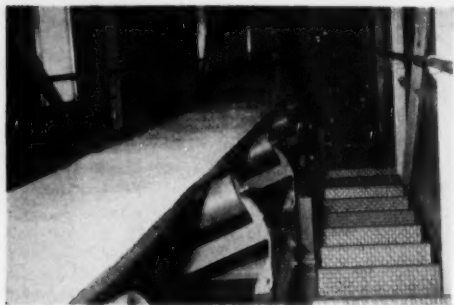
TRANSFER STATIONS are used in many cases where bulk material must be transported long distances on belt conveyors. Cut-away view of station shows how the conveyors are arranged in a series of flights. A chute is used to lessen shock during transfer.



TRANSPORT TRUCKS haul the sugar from the mill to the bulk sugar warehouse. These specially-built trucks have a capacity of 21 tons, are loaded from bins.



SIDE DUMP BOXES on the trucks are unloaded into the receiving hopper. Each of the boxes holds seven tons, may be unloaded individually or simultaneously.



CONVEYOR BELTS under the receiving hoppers carry the sugar up to the top of the storage bin. This 36-inch belt moves the sugar at 300 tons per hour.

Bulk Handling . .

LOCATED some 2500 miles from the mainland, the Kauai Consolidated Terminals, Ltd., bulk sugar plant at the port of Nawiliwili, Kauai, Hawaii, is said to be one of the most modern plants of its type.

Constructed only a few years ago, the latest in equipment has been utilized. Special transport trucks carry the sugar from the mill to the bulk sugar warehouse, where it is poured into receiving hoppers and onto conveyor belts which move the sugar into the warehouse at the rate of 300 tons per hour.



UNLOADING BELTS dump the sugar from the loft of the storage bin to the floor, 50 feet below. The sugar remains there until ready for shipment to the mainland.

... IN STORAGE

How a Plant in Hawaii Uses Up-to-Date Methods For Handling Bulk Sugar

Under the warehouse is a long tunnel with several trap doors, which allow the sugar to pour onto another conveyor belt which takes it to special weighing before continuing on to the docks.

At the docks, seven-story gantry cranes provide a conveyor bridge over the ship's side and down into the hold where the sugar is loaded at the rate of 600 tons per hour. Attached to the end of the gantry crane is a trimmer, which throws the sugar into the corners of the hold and loads the ship evenly.

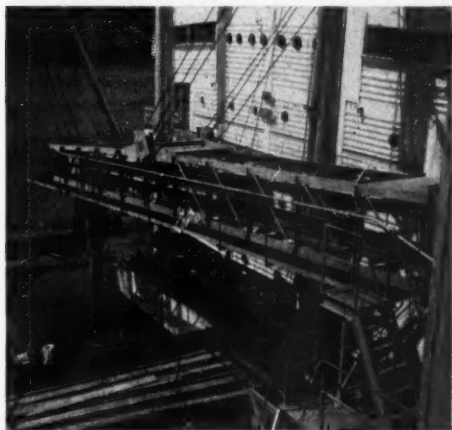
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STORAGE BIN, when $\frac{2}{3}$ full, has sugar piled up 44 feet high. Since sugar's angle of repose is about 34° , the concrete side walls are only 13 feet high.



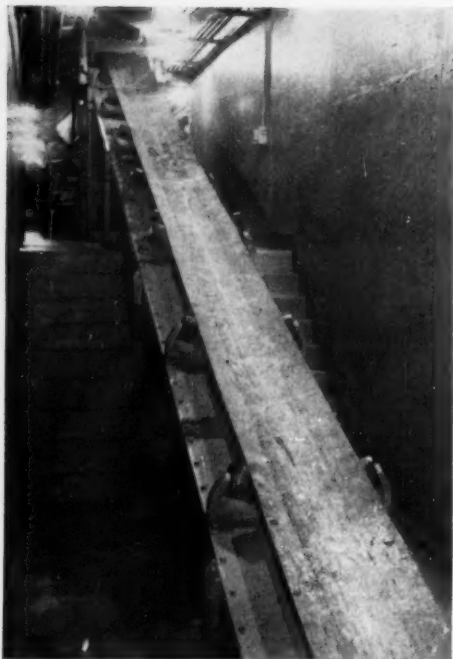
ELECTRIC SHOVELS are used to move the sugar from sides of the bin to center hoppers, which feed another conveyor located in a long tunnel under the warehouse.



GANTRY CRANES, seven-stories high, provide a conveyor bridge over the ship's side and down into the hold where the sugar is loaded, 600 tons per hour.

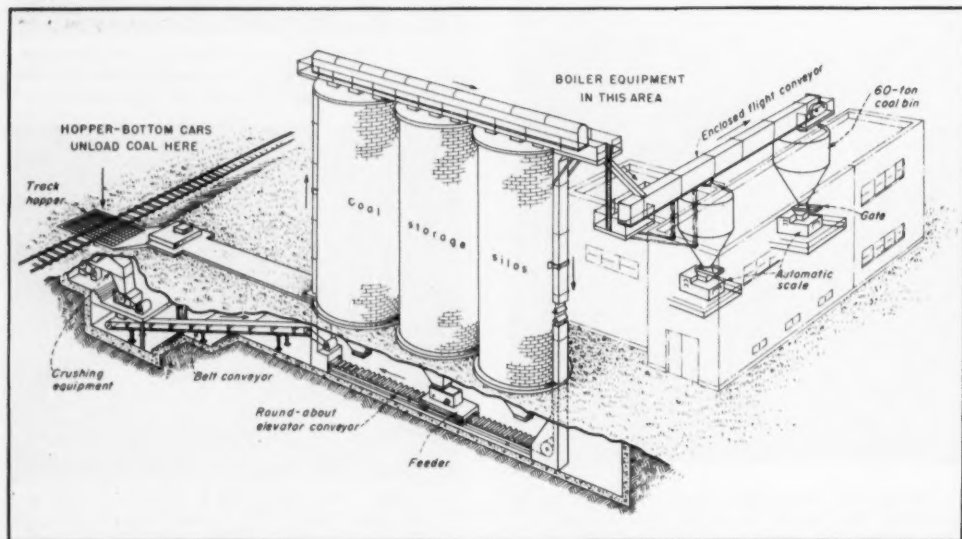


TRIMMER in the ship's hold is attached to the end of the gantry crane. This trimmer throws the sugar into the corners of the hold and loads the ship evenly.



INCLINED BELT CONVEYOR carries coal from the initial crushing equipment to the "round-about" elevator conveyor. Belt is troughed, inclined at 20 degrees.

OVER-ALL HANDLING SYSTEM shows the travel of the coal-handling conveyors and the position of the three 330-ton silos in relation to the power plant.



Bulk Handling

FROM the time it arrives in hopper-bottom cars until it is burned, all coal will be handled mechanically at the new Ciba States Limited plant in Toms River, N. J. This includes delivery to initial crushing equipment; elevation and dumping into storage silos; and conveying from silos to the power house.

Incoming coal is delivered through a track grating, and is fed into crushing equipment. After it is crushed, the coal is carried on a belt conveyor, then to a "round-about" conveyor which carries the coal to the top of and into the storage silos.

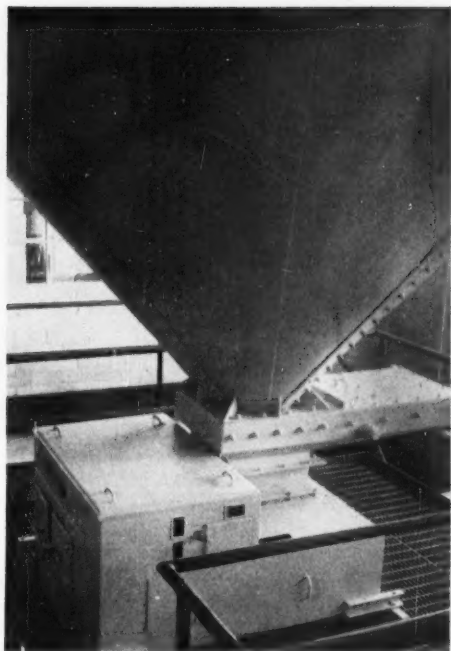
The "round-about" conveyor is actually a combination flight conveyor and bucket elevator. When it travels horizontally, it is a flight conveyor, and when

... **IN THE PLANT**

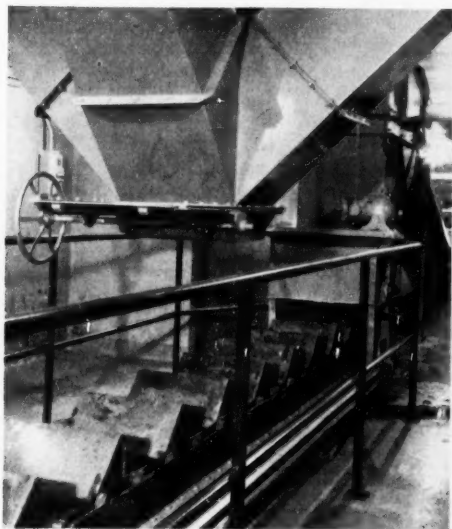
it travels vertically, it becomes a bucket elevator. Coal is delivered into whichever silo is open. If all silos are closed, coal will be delivered to a chute which carries it to a flight conveyor for delivery to power house coal bins.

An underground feeder-car is used when coal is to be emptied from a silo and conveyed to the power house. The feeder-car has a conveyor-belt bottom which feeds coal evenly to the flight conveyor as it passes beneath the car.

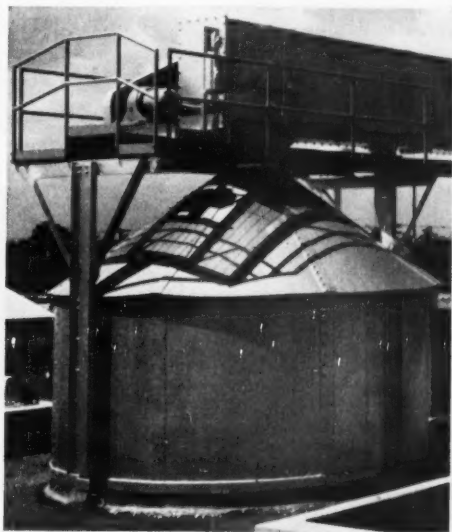
The new Ciba plant is nearing completion after nearly three years of construction. When finished, it reportedly will be the most modern plant in the world for the production of vat colors.



HOPPER-BOTTOM BIN, seen from the inside of the building, feeds into automatic scale which feeds the pulverizing equipment. It has a capacity of 60 tons.



"ROUND-ABOUT" CONVEYOR passes under the silos. When this conveyor travels horizontally, it is a flight conveyor; vertically, it is a bucket conveyor.



ENCLOSED FLIGHT CONVEYOR receives coal from a chute (not shown) which is loaded by the round-about conveyor for delivery when the silos are closed.

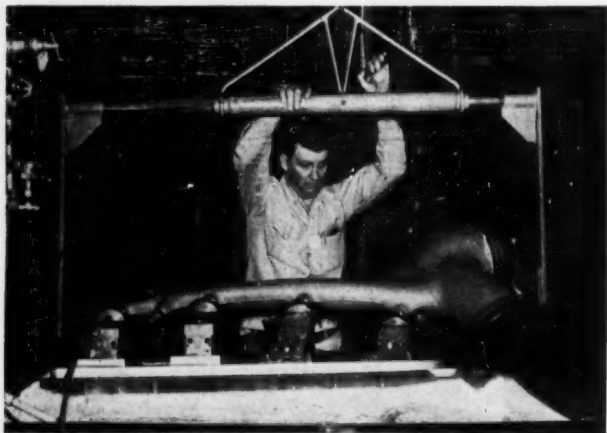


Synchronized

CENTRAL TURNTABLE (top) is positioned under overhead spot welding machine to provide easy access. On the rolling work tables, flanges are installed.

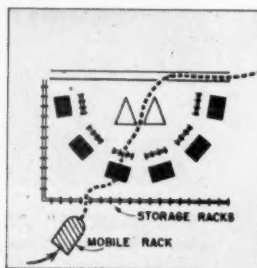


CONVEYOR DOLLIES (middle) racked with parts move through area 2. Note that special contours and padding on racks give maximum protection to parts.



ADJUSTABLE RACK (below, left) is used in giving each exhaust section an underwater test to determine the soundness of welds and seams. This is area 4.

FLOW DIAGRAM (below, right) showing movement of typical component through Ryan Aeronautical Co.'s production line for Pratt & Whitney Exhaust systems.



Flow of *Almost* Identical Parts

BY tailoring manufacturing methods to fit the parts, Ryan Aeronautical Co., has raised volume, reduced space requirements and balanced production in the fabrication of exhaust systems for R-4360-59 Pratt and Whitney aircraft engines. Involving a major switch from conventional "batch" methods to a "flow" type of fabrication, the innovation has also improved parts quality and enhanced employee morale.

Sparked by the necessity for expanding Wasp Major "-59" quantities in limited factory space, Ryan production experts devised the new assembly arrangement, which is centralized in four contiguous areas. In each, machines and fixtures are placed in specific patterns to meet the flow of parts. Custom-made dollies, rolling on continuous floor tracks, carry the parts to the machines.

This is in sharp contrast to the former method where equipment had to be spread out to allow batches of parts to be carted to each machine. A forty percent saving in valuable floor space has been realized by grouping jigs and tools along the new tracked conveyor lines.

An important advantage of the system is the achievement of balanced control of both parts and production. The parts consist of seven large, tubular sections of stainless steel. Looking deceptively identical, each is actually different in design. All seven fit together to form a complete exhaust system for an engine of a Boeing C-97 Stratofreighter or KC-97 aerial tanker airplane. Since shipments are made in complete engine sets, it is highly desirable to obtain a balanced flow of parts from production lines.

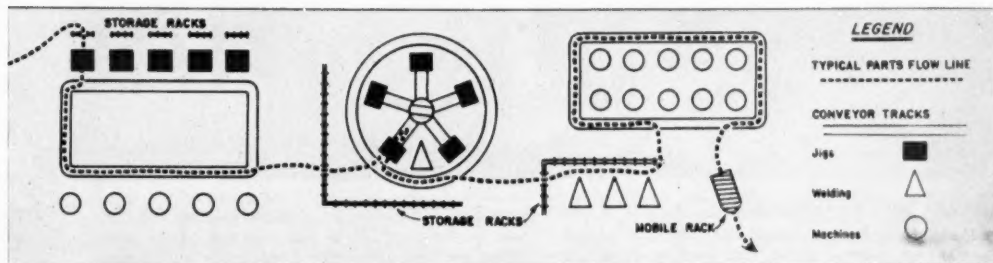
With high production, this would have been difficult under the former batch system because of the similarity of parts. Large numbers of indistinguishable components would have been shuttling between machines in confusing array. Only a time-consuming segregation and count would have disclosed the relative numbers of each part in production. With the new system, it is possible at all times to observe the progress of the parts and the exact numbers in each area. Adding to this facility is the fact that all dollies and racks are keyed to specific fixtures and designed to hold a normal day's work.

Single Production Line

A salient feature of the new program is the more efficient use of manpower and machines which it permits. In each area roving crews can be used to perform specialized tasks, such as welding. These crews go from one fixture to another, performing identical types of work on slightly different parts. They are followed by others who perform other specialized jobs. In this way, employees become specialists in skilled tasks and are not required to perform all types of work at a fixed location. This would not be possible if the work were not laid out along distinct, chronological lines of progress.

The system can be geared to varied rates of production. Of course, maximum efficiency is attained under optimum parts volume. Every machine is spotted in sequence at the exact location where the work is performed. Both the numbers of employees and machines can be balanced to fit the time required for each type of fabrication and the volume of parts.

(Continued on page 136)



Ideas from a small plant which
makes effective use of a variety of
work saving devices while handling

Hard-to-Handle Shapes

UP-TO-DATE handling methods are speeding up production operations at the Muskegon, Michigan, plant of Geerpres Wringer, Inc., manufacturers of industrial mop wringers and allied floor cleaning equipment.

The building has a 400-foot railroad siding, and loading docks for simultaneous handling of five trucks or trailers are provided in addition to a delivery ramp into the rear of the plant. Galvanized tanks are unloaded from railroad cars with a belt conveyor.

A fork truck is used to stack tote boxes of material.

The tote boxes also are moved by the truck to the operations where the material will be used. At the spot welding operation, an air-hydraulic lift raises the tote boxes to workbench level to facilitate the operation.

Cartons for shipping mop wringers and tanks are assembled on a fast-action metal stitching machine in the shipping department. The packaged mop wringers and tanks are moved on sectionalized wheel conveyors to truck trailers for shipping. These conveyors can be extended in sections to provide correct lengths for various carton loads.



POWER BELT CONVEYOR is used to unload galvanized tanks from a freight car. The building has a 400-foot railroad siding, and loading docks are

provided in addition to a delivery ramp into the rear of the plant. Note that one end of the conveyor has been set on the floor of the freight car.



FORK TRUCK stacks tote boxes of material. The truck also is used to move these boxes to the operations where the material is to be used.



AIR-HYDRAULIC LIFT raises tote boxes to work-bench level to facilitate the spot welding operation. The lift is shown at the left.



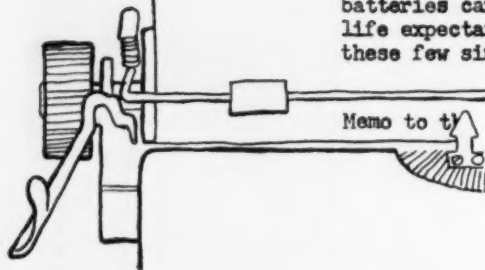
WHEEL CONVEYOR SECTIONS of various lengths are placed into position for movement of packaged wringers and tanks to trailers for shipping.



CASTERED ASSEMBLIES which are mounted on the tank as part of the finished unit are put to use when moving stacks in the shipping department.

MAKE BATTERY REPAIRS PROMPTLY

Most accidental damage to lead-acid type batteries can be easily fixed, and their life expectancy prolonged, by following these few simple directions.



MAJOR catastrophies, which cause complete destruction of industrial storage batteries, are comparatively rare. Too often a battery is discarded because of some petty damage which would have required only simple repairs to put it back into useful service.

Quite frequently, these slight damages do not affect the functioning of the battery at the time of the accident. But they eventually become bothersome, and the battery is put in a corner and forgotten. A neglected

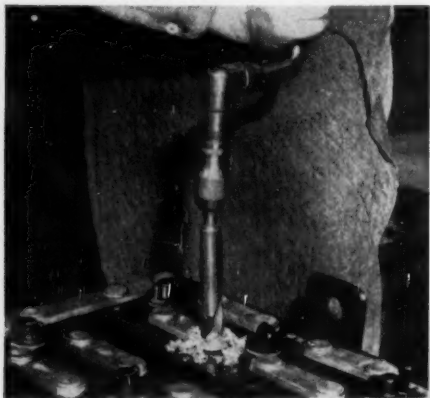
storage battery will continue to deteriorate, even if it isn't used. Repairs, therefore, should be made promptly if the life expectancy of the battery is not to be drastically shortened.

Broken covers, connectors, jars or separators—the most common occurrences—can be considered ordinary field repair jobs. Usually they can be made with available shop tools, or readily available accessories, and without serious interruptions of service because repair time will not interrupt the charging cycle.

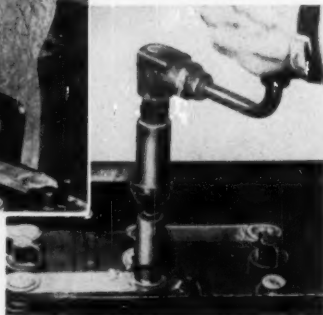
When it is necessary to remove a connector, an ordinary steel twist drill can be used on the button weld at the ends of the cell connectors. The bit should be about $\frac{1}{4}$ inch smaller than the diameter of the button. (an $\frac{11}{16}$ will do for some batteries, a $\frac{15}{16}$ for others.) To save the parts for re-use, do not drill any deeper than necessary. About $\frac{3}{8}$ in. or a depth equal to slightly more than the connector thickness will suffice. Then grasp the connector firmly with a pair of combination pliers. A firm rocking motion will usually release the connector, and it can be removed.

(This technique requires rebuilding the posts before reassembly. This is done by simple lead "pud-

REMOVING CONNECTORS...



DRILLING out a post with a standard brace and bit to remove connector.



SPECIAL TOOL cuts a ring-shaped hole to leave post intact, upright.

dling", applying heat by a carbon electrode manipulated within the cavity of a simple post mold. Post molds are available as purchasable items in the maintenance man does not care to make his own.)

There is also available a special drill which cuts an annular, or ring shaped hole, and permits the lead posts to remain upright, intact and of normal height.

In certain battery designs, there is sufficient clearance between the inter-cell connector and the top of the cover so that the first drilling may be eliminated by a horizontal saw cut through the post under the connector.

When taking off the cover, it will be necessary first to remove the connectors as described above.

There are usually two types of covers in the industrial field—one with a lead "locknut" and suitable "gasket" construction, the other having lead sleeves or inserts cast integral with the hard rubber cover and welded to battery posts. In the case of the latter, it is necessary to continue drilling into the post, through the cover to free it from the lead seal.

Both types of construction use a compound jar seal which must be cut free before the cover can be removed. To do this, run a hot putty knife between the cover and the jar, working it straight down along the inside edge of the jar. Then, for covers of the locknut and gasket design, remove the nuts with a suitable wrench or pliers. If, as follows in the next section, the element is going to be removed, leave the nuts in place and pull the cover and element out of the jar as a unit.) When the compound has been loosened, the cover can easily be removed by hand.

Caution: Do not use the corner of the jar as a fulcrum for your putty knife. This could result in a split jar corner and cause a top leaker, which will necessitate changing the jar and add to the repair time.

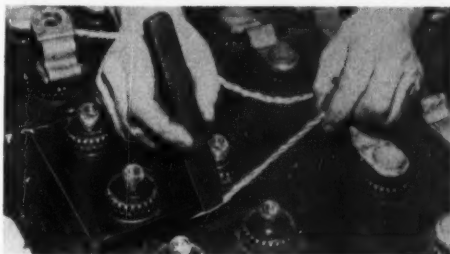
If the old cover is to be re-used, the sealing compound must be removed completely and the repaired cell re-sealed with fresh compound. Be sure all portions of the jar wall and the container that compound will contact are clean and dry. It is good practice to draw off some of the electrolyte and then wipe edges of the jar with a damp cloth to remove all traces of acid.

With a soft flame, warm the groove where compound is to be poured because it adheres best to heated surfaces. Take care not to scorch the jar or covers. After

the cover is in place, pour hot compound in the groove until it is about half filled. Gently burn this compound in with the flame so that a complete bond is made. Make a second pour and fill the compound groove up to its proper level; use the flame again to finish the job.

(More on next page)

REMOVING AND REPLACING COVERS...

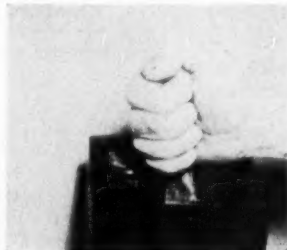


TO REPLACE a caulking cord, press firmly into bottom of sealing groove before pouring first layer of sealing compound.



WITH CONVENIENT container, pour warmed compound to half fill the groove, heat with flame, then finish filling.

RIGHT: Warmed putty knife or other flat blade loosens cover from the jar.



FAR RIGHT: When compound seal has been cut, cover can be easily lifted by hand.



REMOVING THE CELL FROM THE TRAY...



HOIST can help lift cell from tray. Note rope sling to take up mechanical shock. Always pull from negative posts.

REMOVING AND REPLACING A JAR...

First remove the cell complete with the jar from the tray, using the above procedure, after which the compound can be cut from around the top of the jar wall and the cover. The element with the cover attached can then be removed from the jar and set immediately in a replacement jar of the same type and size for the particular battery for which it was designed. If the jar is cold, apply a soft flame and warm it for proper handling before attempting to seat the element; otherwise breakage may occur. When the element has been replaced and resealed in the new jar, compound it according to the procedures for replacing the covers.

Always make an internal inspection when element removal is necessary to determine if all the separators are in place and they are free of cracks and chips or any damage which might lead to internal shortcircuits. Careful internal examination is a profitable procedure because this is the time to replace any separators which are doubtful.

CAUTION: Elements should not be exposed to the air any longer than is necessary. Oxygens in the air will combine with the negative material, causing the element to get warm. If this occurs heating can be retarded by sprinkling element with water or covering with wet cloth.

Broken jars always result in lost acid with a cor-

Complete cell removal is always necessary when a jar is broken. This type of repair must be made immediately to prevent permanent damage to the element. To remove the cell from the tray it will first be necessary to remove the connectors. Then use a putty knife, either slightly heated or dipped in kerosene, to cut the compound from between the cells. When the compound has been cut loose between the cells, a long spatula or similar tool (a saw with the teeth ground off) can be used to free the cell from the top to the bottom. This tool should be worked all the way down to the bottom of the tray, using light engine oil or kerosene to help relieve surplus compound which may have run down the jar wall. When the jar has been completely relieved it can be pulled from the tray either by hand or mechanical means, if available. Always pull from the negative posts and wherever possible use a line or rope between the cell and the applied force so that the rope can take up any mechanical shock that would be transmitted to the cell and possibly cause damage.



HOLD-DOWN CLIPS secure jar while cover and element are pulled together, useful technique when cover is not damaged.

responding loss in cell capacity. Endeavor to replace the cell in the battery when the battery itself is in a completely discharged condition to be sure of getting enough charge in the repaired cell so that it will be in step with the rest of the battery. Always adjust the specific gravity in the repaired cell as closely as possible with the adjacent original cells.

INSTALLING SEPARATORS...

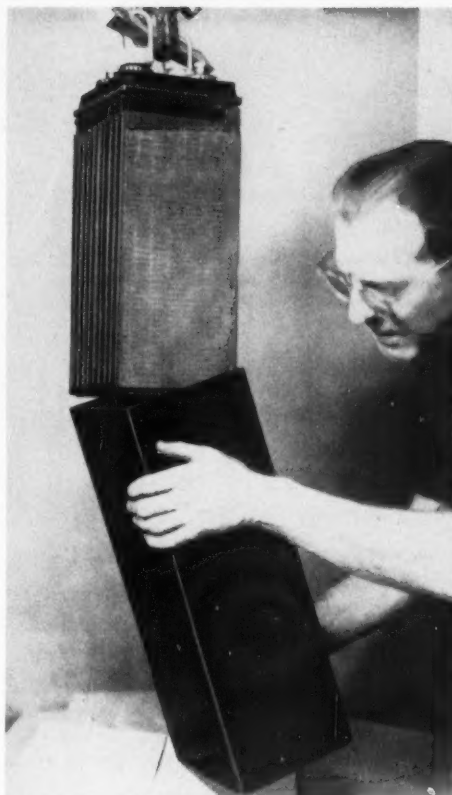
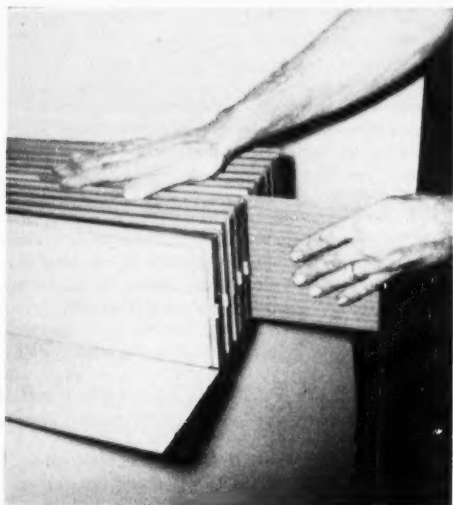
Installing separators (stuffing) in a new cell is a comparatively easy procedure. However, some difficulty may be experienced in the field, when this becomes necessary, because the element is wet. And in the case of an old cell it will be found that the active material has expanded somewhat, thereby making a tight assembly.

If it is found necessary to replace several separators, and the negative plates show some sign of expansion, they should be scraped. Use a spatula-like tool to remove the surplus material clean from the negative to allow room for the new separators and make it easier to replace the element in the jar.

As a final caution, always remember that storage batteries generate explosive gases which will readily ignite when coming in contact with an open flame. Always be sure that all traces of gases are blown out of the cell before approaching it with an open flame. This procedure simply consists of gently blowing in the vent well prior to working on the cell.

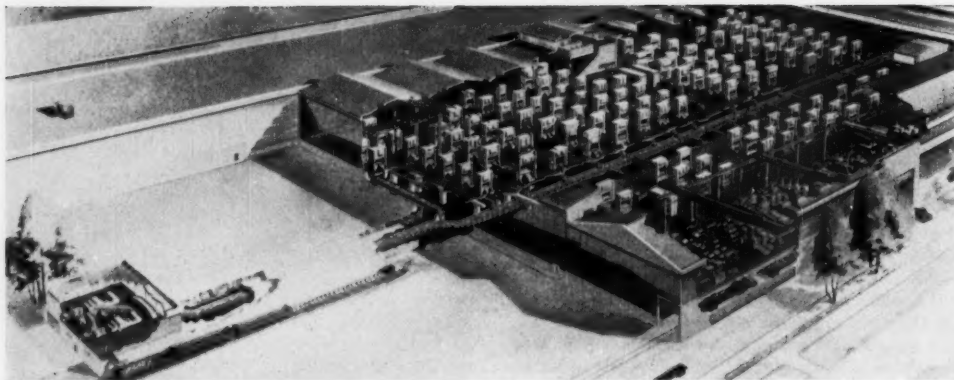
Do not lay tools or anything metallic on top of a storage battery. Keep your battery clean and dry; follow the battery manufacturer's operating instructions; and trouble-free, long battery life will be realized.

FLOW's thanks for assistance on this article go to Lester F. Ransom, Headquarters Service Engineer, C & D Batteries, Inc.; C. J. Moore, Manager, Railway and Motor Power Sales Div., Electric Storage Battery Co.; K. A. Vaughn, Manager, Field Engineering, Gould-National Batteries, Inc.; and H. D. Stanley, Chief Engineer, K. W. Battery Co.



WHEN REPLACING an element, be sure the outside plates start down inside of jar. Grip element near bottom to prevent flaring.

"STUFFING" separators may be difficult in the field unless negative plates are first scraped to remove surplus material.



CUTAWAY VIEW of the complete scrap baling system shows how scrap is collected from the presses, fed to the main conveyor, baled and then

loaded on freight cars. The spurs, or feeder lines, are each about 120 feet long. The main conveyor is designed to handle 550,000 pounds of metal daily.

Underground Scrap Removal

LARGEST industrial subway of its type in General Motors plants is the underground scrap conveyor system recently installed in the Grand Rapids Fisher Body plant. It is designed to carry scrap steel directly from the stamping presses to a baler house in the rear of the plant where it is prepared for re-shipment to the steel mill.

In addition to its safety advantages, the installation speeds press operation by eliminating the need for shutting down while the gondola cars, formerly used, were emptied.

As the scrap material is cut on the stamping presses, it automatically drops into a chute leading to the feeder line. Bushlings, or small plugs, which do not bale

properly, are automatically dropped into a separate chute at the press.

Spurs, or feeder lines, average about 120 feet in length. All are equipped with an automatic safety device, so that if the line stops due to a jam, the operator must release a switch before it goes into operation again. This protects employees against injury which might occur if the line started immediately after the jam was cleared.

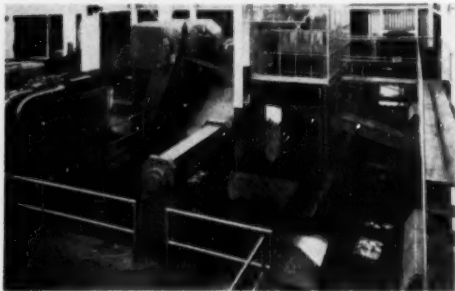
The main conveyor line beneath the plant, moving at an average speed of 20 feet per minute, is controlled by an operator in the baler house. Running on a continuous cycle when both balers are in operation, the conveyor is designed to handle 550,000 pounds of metal daily at full capacity operation.

Oil from the scrap metal itself serves to lubricate the piano-type hinges which join the flexible conveyor plates together in a continuous belt.

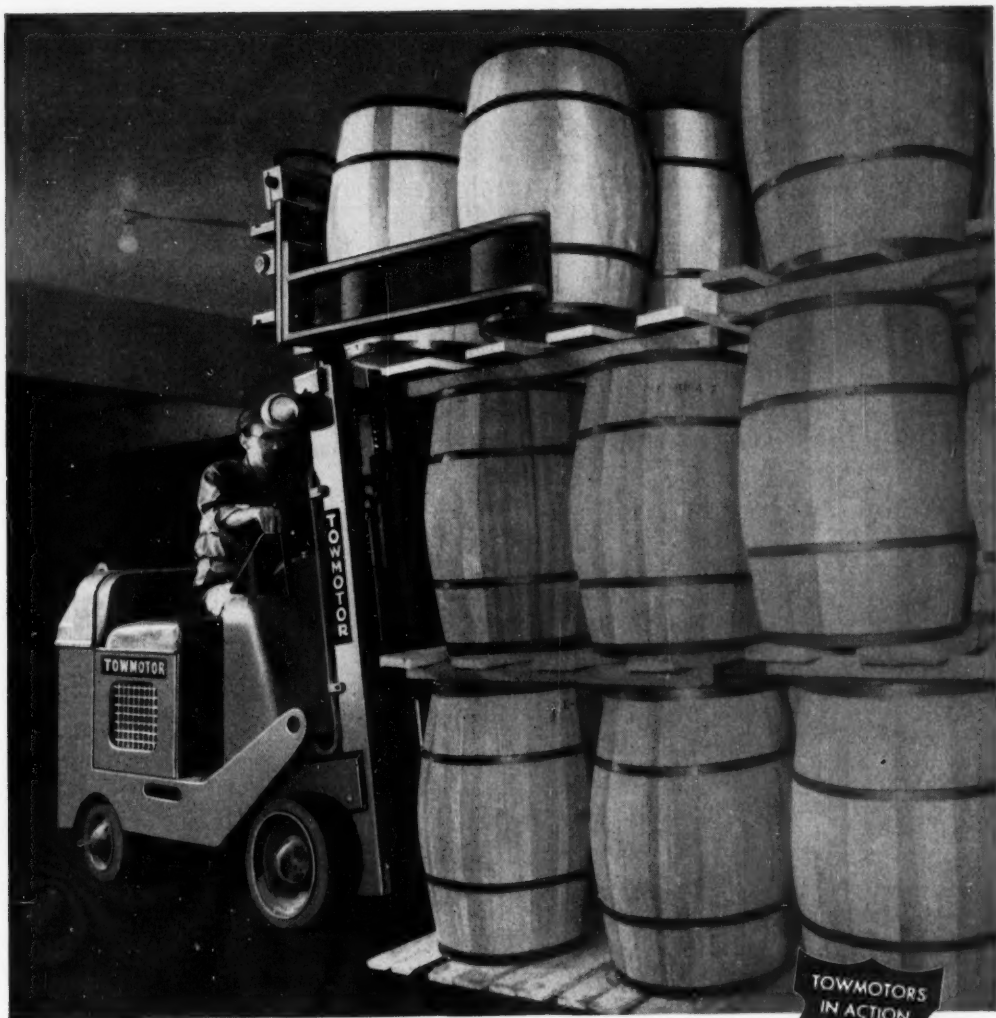
At the end of its underground journey beneath the plant, the conveyor angles upward into the baler house. Scrap is kept from sliding backwards by use of staggered angle irons attached to the plates. In the baler house, the line dumps its load of scrap alternately into two receiving bins. The filled bins are then dumped automatically into first one and then the other baling press.

The bales, which weigh from 600 to 800 pounds each, are then dumped automatically on another small spur line, where they are carried to a chute which dumps them in a railroad gondola on the plant siding.

The conveyor system was designed and installed by Fisher Body's Central Works Engineering Section.



SYSTEM'S HEART is the control booth in the baler house, where scrap is dumped into receiving bins, and then into first one and then the other press.



Triple-tier stacking of a 2,088-pound load of heavy chemicals at Westvaco Chemical Division, Carteret, N. J.

TOWMOTORS
IN ACTION
IN U. S.
INDUSTRY

Tuck 'em in snug...

Stretch both storage capacity and your operating budget . . . by stacking extra-large loads extra tiers higher. That's just one of many ways that widely adaptable Towmotor takes the hobbles off your materials handling routines for greater efficiency. Any one alone totals up savings that pay for Towmotor many times over. Methods which make these savings a reality are described in new book titled "Man-Hour Thieves." Write for your copy, and name of your nearest Towmotor Representative, to: Towmotor Corporation, Div. 804, 1226 E. 152nd St., Cleveland 10, Ohio.

Be Sure To See the Towmotor Exhibit at the 5th National Materials Handling Exposition starting May 18, 1953.

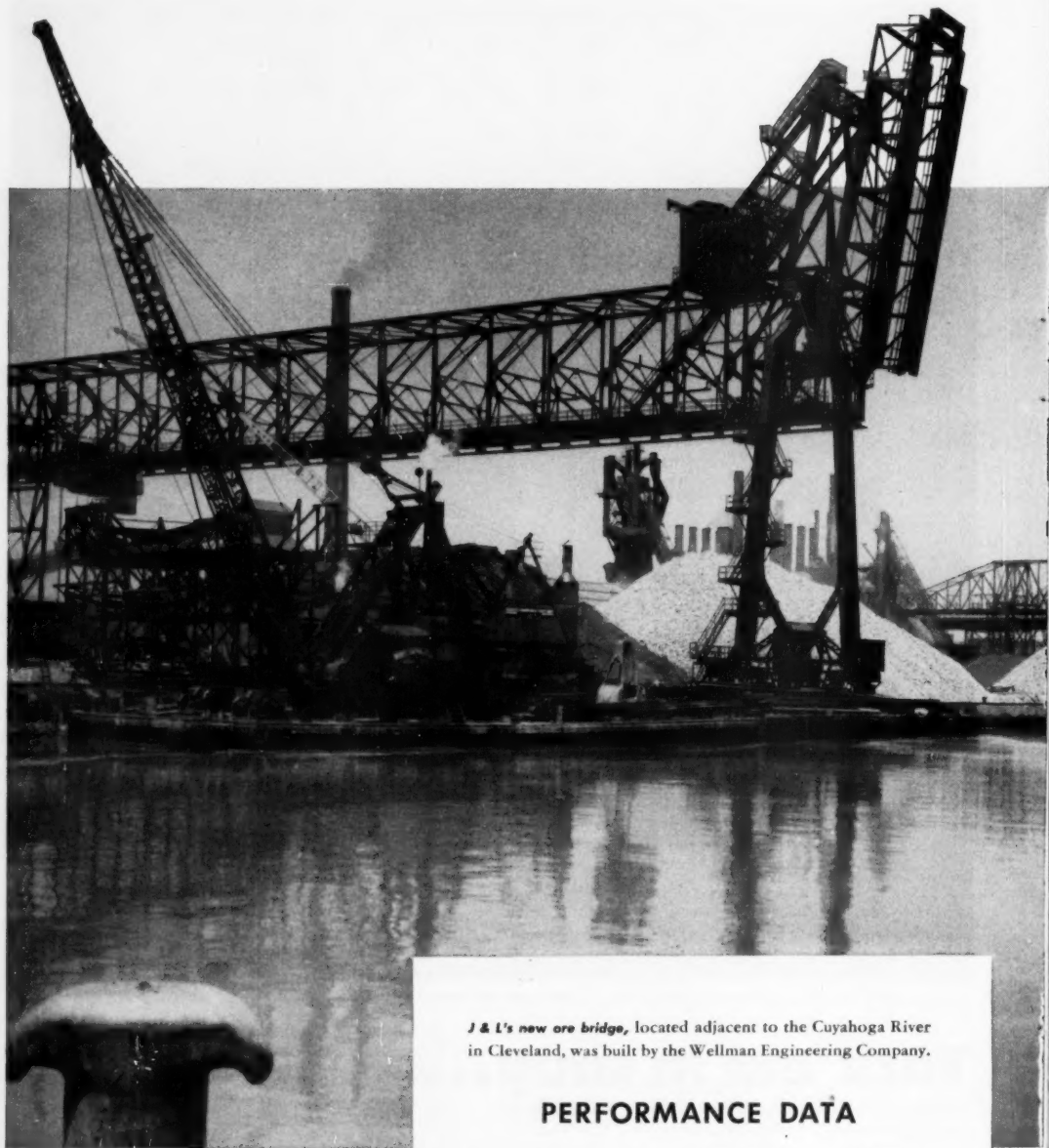
TOWMOTOR
THE ONE-MAN-GANG®

**FORK LIFT TRUCKS
AND TRACTORS**

SINCE 1919

TOWMOTOR ENGINEERED FOR QUALITY PRODUCTION

Circle No. 147 on Reader Service Card for more information



J & L's new ore bridge, located adjacent to the Cuyahoga River in Cleveland, was built by the Wellman Engineering Company.

PERFORMANCE DATA

	Guaranteed	Secured
Hoist Speed	260 fpm	280 fpm
Lower Speed	286 fpm	314 fpm
Trolley Speed	1200 fpm	1290 fpm
Average Trolley Acceleration Rate	3.0 ft/sec ²	3.02 ft/sec ²
Cycle Time	58.6 sec	57 sec
Unloading Capacity	1040 tons/hr	1070 tons/hr

Westinghouse drive boosts ore bridge performance

This 573-foot giant at the Otis (Cleveland) Works of Jones & Laughlin unloads ore from Great Lakes carriers at a 1040-ton-per-hour rate. The control system and drive, designed and built by Westinghouse, have integrated the bridge's complex electrical system. In addition, they offer power savings and low maintenance.

Smooth-sailing bucket

Westinghouse applied a new adjustable-voltage drive which gives the operator smoother, more precise control of the 17-ton capacity bucket. A special load-regulating system governs the distribution of load between the "hold" and "close" drives, and controls the bucket under all operating conditions.

Trolley with pickup

The drive provides fast acceleration for the trolley and reduces peak stresses on the mechanical parts and structural members. It assures economical operation by practically eliminating acceleration power losses. In addition, it lessens bridge maintenance costs and permits trolley construction of lighter weight, a saving reflected throughout the entire bridge.

No speeding allowed

Thanks to automatic, interlocked controls, the operator's job is relatively simple. In an emergency, he can remove power from all driving motors and set the brakes by touching the "stop" button. Trolley travel protection is provided by limit switches which enforce two speed check points at each end of travel. If the trolley exceeds its prescribed speed when it passes either of these check points, it's automatically slowed down.

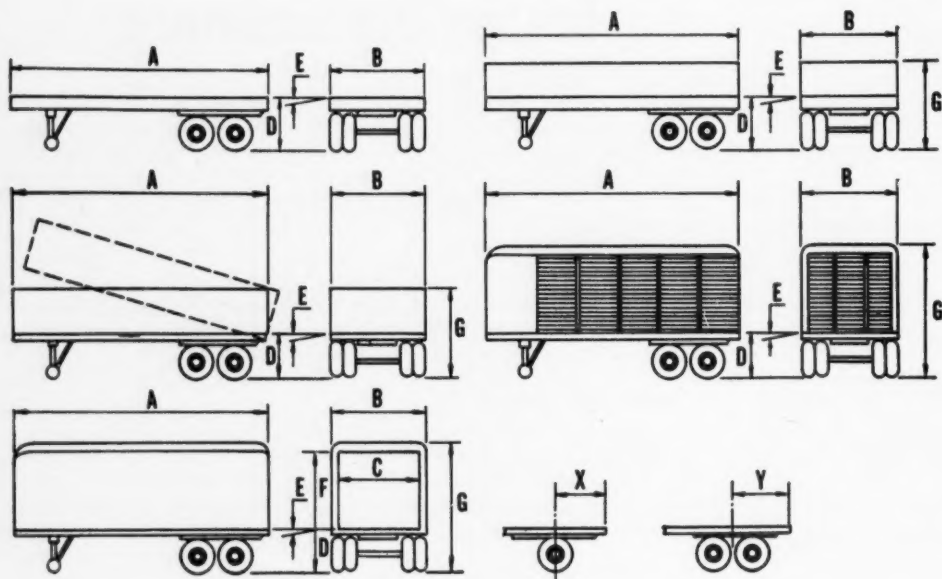
Next time, call Westinghouse

Co-operation between J & L, Wellman and Westinghouse engineers produced a drive characterized by smooth, rapid acceleration and excellent maneuverability. Westinghouse also builds drives for conveyers, cranes, shovels . . . for almost all kinds of materials-handling equipment. If you can use this kind of imaginative engineering, call your nearby Westinghouse office early in the planning stage. Westinghouse Electric Corp., Pittsburgh, Pa. J-94973

YOU CAN BE SURE...IF IT'S
Westinghouse



HIGHWAY TRAILER DIMENSIONS



SINGLE AXLE

X = (on trailers 17' to 24' long) 2' 10³/₄"
X = (on trailers 25' to 32' long) 3' 10³/₄"

TANDEM AXLE

Y = (on trailers 23' to 30' long) 7' 1¹/₄"
Y = (on trailers 31' to 34' long) 8' 7³/₄"

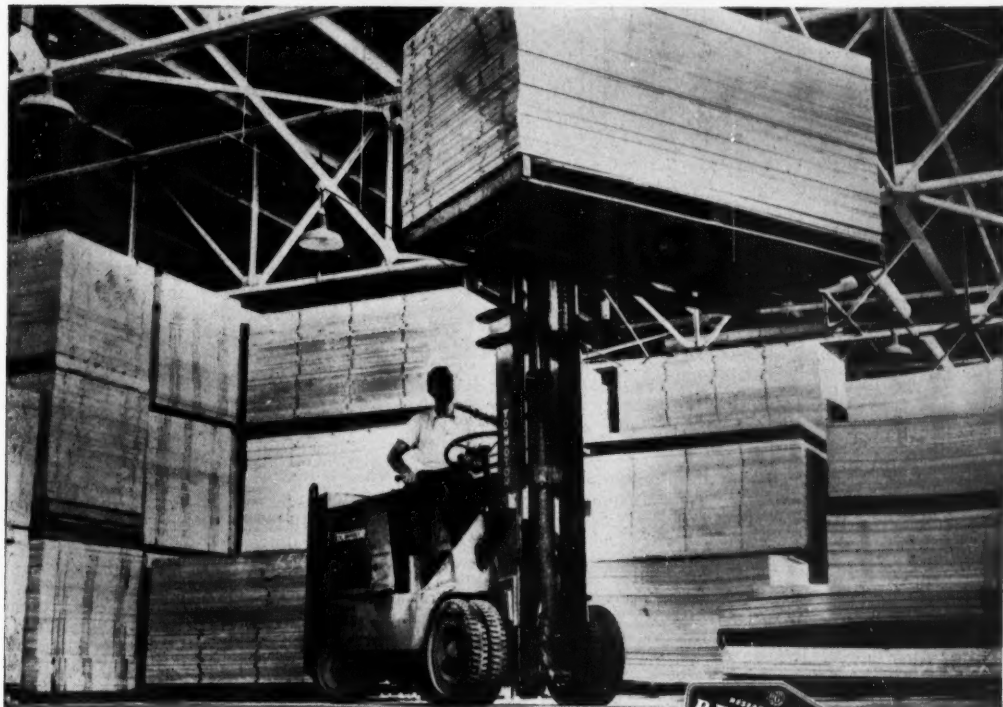
Type of Trailer	A Overall Length	B Overall Width	C Inside Width	D Floor Height From Road	E Deflection Under Load	F Inside Height	G Overall Height
Platform	24' to 32'	7'6" to 8'0"		49" to 56 ¹ / ₄ " Depending on Size of Tires Used on Trailer	A= Much As 6"— Varies According to Load And Position of Load	—	49" to 56 ¹ / ₄ "
Grain Haul	24' to 32'	to 8'0"	7'4" to 7'5"			to 49 ¹ / ₂ "	to 8'10"
Dump Trailer	16' to 18'	7'5" to 7'6"	6'8" to 6'10"			to 52"	9'0"
Livestock	24' to 34'	to 8'0"	7'2" to 7'6"			to 7'3"	Av. 12' 3"
Closed Van	20' to 34'	to 8'0"	to 7'5 ¹ / ₂ "			to 7'3"	Av. 12' 6" Max. 12'8 ¹ / ₂ "

Capacity—Varies in different states—18000 lbs gross load per axle general

B.F. Goodrich

TW
TIRE AND WHEEL

**ANALYSIS speeds materials handling,
cuts tire costs as much as 50%**



YOU can move more goods more efficiently at lower cost when your materials handling equipment rolls on tires of the right type, size, compound and tread design. But choosing the tires calls for a careful analysis of the kinds of equipment you use; where you operate—indoors or outside; your hauling surfaces; the kind of loads carried and any special conditions such as oily floors.

Such an analysis is a specialized, time-consuming job. That's why B. F. Goodrich offers you the Tire and Wheel Analysis Plan. Without charge or obligation, a trained BFG man will study your operations. He'll recommend the right tires for you to use. Perhaps you need a tire for better cushioning, a special cut-resistant compound, a tread design that gives better traction. Perhaps you have tire maintenance problems. Whatever your tire needs, your BFG man's recommendations will be impartial because B. F. Goodrich makes—and BFG retailers sell—a complete line of industrial tires.

To get full power from your industrial trucks and maximum service from your tires, send in the coupon or call your BFG retailer.

A special TW Analysis Plan is available for manufacturers of industrial hauling equipment.

The B. F. Goodrich Co.
Department TW-244, Akron, Ohio

Please send me:

- ☐ Additional information on your new Tire and Wheel Analysis Plan.
☐ A free copy of your "Industrial Tire Guidebook".

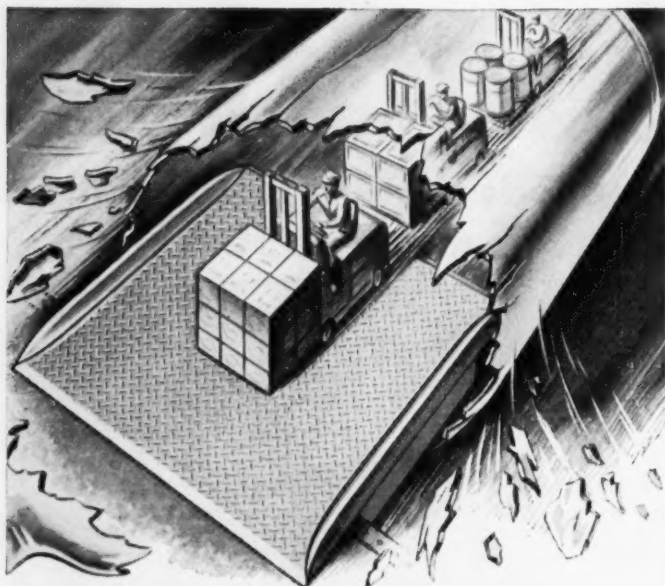
Name

Title

Company

City State

Circle No. 27 on Reader Service Card for more information



Smash Loading Bottlenecks!

Increase the loading capacity of your existing facilities... *without major capital expenditure!* Do it by equipping your docks with Magliner magnesium dock boards. Custom-engineered to facilitate traffic flow, these light-weight, easy-to-handle units permit smooth, fast transit between dock and freight carrier. Eliminate loading jams and carrier tie-ups! Break costly bottlenecks in shipping and receiving with *magnesium-light, magnesium-strong* Magliner dock boards! Write today for descriptive bulletin DB-204.

Mag Liner
MAGNESIUM
DOCK BOARDS



NEW! DAMAGE-PROOF SAFETY CURBS!

New Magline safety curb prevents wheel impact—major cause of all dock board damage! Get longer service life... better service performance... with Magliner magnesium dock boards!

REINFORCED CURB ENDS!

... of cast magnesium! Dowelled-in — welded construction! Double strength where it is vital! Flared design permits easy wide-angle turns and prevents tire damage. Roomy, comfortable hand grips for easy carrying.

WRITE FOR DESCRIPTIVE BULLETIN DB-204

Standard Dock Boards Also Available—Write for Information

MAGLINE INC. • P. O. BOX 346 • PINCONNING, MICHIGAN

Circle No. 40 on Reader Service Card for more information

SALES FIELD . . .

(Continued from page 27)

May-Fran Engineering Inc. has announced the appointment of **Walter A. Stuhr** as regional sales engineer in Chicago. He brings to May-Fran over 15 years experience in the materials handling field.



W. A. Stuhr

May-Fran's new mid-western office was opened recently at 53 West Jackson Blvd., Chicago.

Hyster Co. has appointed four new district managers to fill vacancies throughout the eastern states. They are **Robert Lang**, east central district; **Art Morris**, north central district including eastern Canada; **Walt St. Clair**, mid-central district, and **Robert Hile**, north-west district.

Divisional assignments within the sales department of **Heppenstall Co.** have been announced by **Harry O. Lang**, vice president in charge of sales. **J. O. Phillips** has been named assistant general manager of sales; **R. B. Heppentall Jr.** has been appointed manager of market research; **Harold F. Wood Jr.** is manager of knife sales, and **Ward E. Duchene** is manager of material handling sales.

Autolift Accessory & Engineering Co., Kingston, Pa., has opened a new warehouse at 120 West Union Blvd., Bethlehem, Pa. The new facilities have added considerably to the company's ability to serve its customers.

W. D. Vanderipe & Associates, Davenport, Ia., has moved to new quarters at 2421 Middle Road, Davenport. The com-

Here's the
Answer!



Safety can cut your costs—no matter what business you're in, regardless how many people you employ. And here's your guide to dollar savings through accident-prevention. Its 10 separate sections cover every phase of industrial safety and health, from Aluminum dust hazards to Zirconium's toxic properties.

The Industrial Safety & Health Handbook is bound in a heavy-duty binder—and it has to be. It's made for continual, rough use: you'll soon find it the most valuable book on your desk. Its nearly 300 pages are indexed and color-tabbed for fast reference. You can get an immediate answer to any safety or health problem that arises. If you have no safety engineer, you'll need this book more than ever.



This Handbook, published by Industrial Book Co., has been written and prepared by its affiliate, Occupational Hazards, Inc.

City _____ Zone _____ State _____

VERSATILITY

in CRAMPED QUARTERS or in wide open spaces

Precision Control, Cantilever Boom
and Economy with SAFETY
goes with every

COLES CRANE

For greater efficiency in material handling operations, inside or outside of your plant consider what you can do with a COLES CRANE. The ability to swing the full 360° without loss of load lifting power . . . short wheel base . . . small turning circle . . . conventional steering in either direction . . . SAFE-LOAD cut-out and limit switches ALL COMBINE TO PROVE THAT THE COLES CRANE IS THE IDEAL MATERIAL HANDLING CRANE.

FROM 1 1/4 TO 23 TONS

There is a size Crane for every capacity with boom lengths and auxiliaries to meet your exacting requirements. Over 75 years of engineering experience makes the difference. Write today for complete data in our catalog or for the name of your nearest Dealer.

INDUSTRIES USING COLES MOBILE CRANES

- FOUNDRIES
- RAILROADS
- DOCKS
- STEEL WORKS
- CONSTRUCTION
- AUTOMOTIVE
- AIRCRAFT
- ERECTORS
- OIL REFINERIES
- PUBLIC UTILITIES
- BRIDGE BUILDERS
- QUARRIES
- WAREHOUSES
- LUMBER YARDS
- and many others.



COLES CRANES, INC., BOX 942 • F. JOLIET, ILL.

The name that carries weight
in material handling!



SALES FIELD

Continued

pany is franchise representative for **Automatic Transportation Co.** and carries Automatic's complete line of electric and driver-led industrial trucks. The firm serves a territory covering Iowa and Illinois.

The **Wood Conversion Co.**, St. Paul, Minn., a Weyerhaeuser affiliate, has opened a new sales office in San Francisco, according to **M. S. Wolf**, general sales manager. **J. M. Godley Sr.**, western district manager, heads the new office **J. M. Godley** located in the Monadnock Bldg. Principle product of the company in the packaging and shipping field is Tufflex, a cellulose fiber felt used in protective packaging and cushioning of both small and large metal products.



The **Cambridge Wire Cloth Co.** has opened a new southern sales office at 333 Candler Bldg., Atlanta, Ga. **James M. Evans**, formerly with Devoe Reynolds Paint Co., has joined the Cambridge sales staff to handle both sales and service work in the new territory. It will include North and South Carolina, Georgia, Florida, Alabama, Mississippi and parts of Tennessee.

Wendell E. Simpson, president of the **Brown Equipment and Mfg. Co.**, revealed that his firm had been awarded a distributorship for **Fruehauf** trailers, parts and accessories. His company conducts distribution and service facilities at Springfield, Mass., Syracuse, N. Y., Baltimore, Md. and Charlotte, N. C. The Brown operation at Westfield, Mass., however, is being purchased outright by the **Fruehauf Trailer Co.**



Ford Motor Company chooses **YALE**

MATERIALS HANDLING EQUIPMENT

*Registered Trade Mark

Yale & Towne Manufacturing Company, Philadelphia 15, Pa.

• Just as the Ford Motor Company's slogan is "Ford's Out Front!", so, too, Ford is out front when it comes to maintaining a high degree of efficiency in its manufacturing operations. In keeping with this slogan and with the exacting demands made on all operating equipment in the plant, Ford has specified YALE Electric Trucks as one of the production tools for the mammoth new Ford foundry located in Cleveland, Ohio.

When the Ford Motor Company chose YALE trucks, they knew that it would result in lightening the burden of workers . . . hasten output . . . and cut down on operating costs! It is this kind of confidence in the endurance and reliability of YALE trucks as shown by Ford—in common with other leading manufacturers—that leads users of materials handling equipment, from giant Ram Trucks to compact Worksavers, to rely on dependable YALE industrial Lift Trucks and Hoists.

Gas, Electric, Diesel Lift Trucks • Worksavers • Hand Trucks • Hand and Electric Hoists • Pul-Lifts
Circle No. 82 on Reader Service Card for more information

FLOW • APRIL, 1953

97

**SEE THEM
COMPARE THEM
AND YOU'LL BUY 'EM**

MADE TO TIRE AND RIM
ASSOCIATION STANDARDS



Geneva

**"ROLL CHIEF"
SUPER WIDTH RIM**

**DISC WHEEL WITH WIDE TREAD
AND CROSS SECTION PNEUMATIC
TIRES AND TUBES**

These wheels are another Geneva "FIRST". They are furnished in tire diameters 8", 10", 12", 14", 16, and 18". The wheels are available with choice of hub lengths and bearing types for various spindle sizes, making these interchangeable on your present spindle. They carry great loads easier,—more flotation,—cushioning and longer life.

SEND FOR LITERATURE NOW!

GENEVA METAL WHEEL COMPANY
502 Railroad Street, Geneva, Ohio

Gentlemen:

Please send us literature outlining the superiority of Super Width Rim Disc Wheels.

COMPANY _____

NAME _____

ADDRESS _____

GENEVA METAL WHEEL CO.

502 RAILROAD STREET
GENEVA, OHIO, U.S.A.

Circle No. 152 on Reader Service Card
98

Yale & Towne Truck Show Hits Byways

ASSEMBLED by The Yale & Towne Manufacturing Company, the world's first big-time traveling material handling show is now on the coast-to-coast circuit that will take two years and cover some 25,000 miles across the continent and into Canada and Mexico.

The venture is said to be a pioneer move by heavy industrial equipment makers in take-it-to-the-customer merchandising. Shown in the show are the latest types of material handling equipment in acts which demonstrate the strength and dexterity of the trucks and hoists and attachments.

In discussing the show, Elmer F. Twyman, vice president of Yale & Towne, said, "There is a compelling need of bringing modern material handling experience to thousands of businesses and hundreds of communities that are not yet fully aware of the labor-aiding, cost-saving functions such equipment contributes."

Shown here is one of two 33,000-pound trailers which carry the show, including gasoline and electric fork trucks, special attachments, a variety of hoists and a crew of seven men.



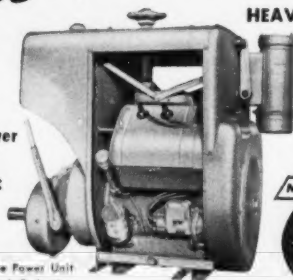
a Bigger, Better WISCONSIN

HEAVY-DUTY *Air-Cooled*

ENGINE

The NEW Model
VG4D 25 to 36
H.P.

16%
More Power
For Your
Equipment



Complete Power Unit
with Clutch Reduction.

MORE

Power
TO FIT THE
JOB

MORE

Power
TO FIT THE
MACHINE

Another engineering achievement . . . the NEW Model VG4D V-type 4-cylinder Wisconsin Heavy-Duty Air-Cooled Engine, increasing the power range to 36 hp. — a power gain of more than 16% over the VP4D, former top engine in the line.

The NEW Model VG4D is an exceptionally smooth-running, even-firing engine. Its light weight and compactness in design simplify the problem of engine installation on modern equipment where weight and space limitations are important factors.

Every one of the traditional Wisconsin 4-cylinder features are built into this new model. These include, to name a few, tapered roller main bearings, dynamically balanced forged crankshaft, mirror finish on crank pins, Stellite-faced exhaust valves and valve seat inserts and honed cylinders for long, dependable, heavy-duty engine life. The Model VG4D engine is definitely Tops in Performance, delivering a maximum of power per pound of engine weight, at minimum operating and maintenance costs. We invite your request for complete detailed specifications.



WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

MILWAUKEE 46, WISCONSIN

A 7336-35

Circle No. 79 on Reader Service Card for more information

FLOW • APRIL, 1953

AD LITERATURE

(Continued from page 54)

Overhead Handling

A new folder describing the installation of a Trambeam Overhead handling system at Cleveland's Reliance Electric and Engineering Co. is available from the Whiting Corp. The manufacturer states that Trambeam is tailor-made to your own requirements from standard components and gives complete coverage of your work area from overhead.

Circle 78 on Reader Service Card

Pay As You Go

Much desired improvements in the materials handling facilities of any industry often depends upon its ability to finance them. While the economies are long-ranged, the capital investment is an immediate requirement. Shields & Company, members of the New York Stock exchange, has information available of considerable interest to firms desiring a means of raising capital for these necessary improvements.

Circle 67 on Reader Service Card

Flowable Bulk Materials

Neff & Fry Co. has released a folder entitled, "Bins With Strength Of Pillars," which illustrates applications of its silos for the storing of flowable bulk materials such as grains, gravel, pulverized materials. Conveyors and bucket elevators load the bins while screw conveyors regulate the discharge.

Circle 51 on Reader Service Card

For Up-To-Date Loading

Adjusting dock levels to varying truck bed heights calls for the installation of some manner of mechanical ramp or bridge most suitable to the existing conditions. Rotary Lift Co. has complete information on its Leva-Dock hydraulic ramp which affords four-way leveling.

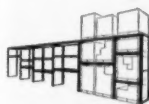
Circle 60 on Reader Service Card

When you choose your PALLET RACK

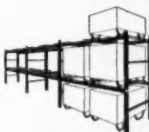
Choose American



Standard Pallet Racks



Adjustable Pallet Racks



Skid Racks



Drum & Barrel Racks



Tool & Die Racks



Coil Racks & Tying Racks

here's an exclusive
American feature



American Rack installation, Will & Baumer Candle Company, Syracuse, New York.

American Tubular Racks are used in all types of businesses, large and small . . . there's an American Tubular Rack designed to meet practically every storage need. Send for catalog.

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION

5959 Linsdale • Detroit 4, Michigan

Gentlemen: Send me more information about American Racks.

Name _____

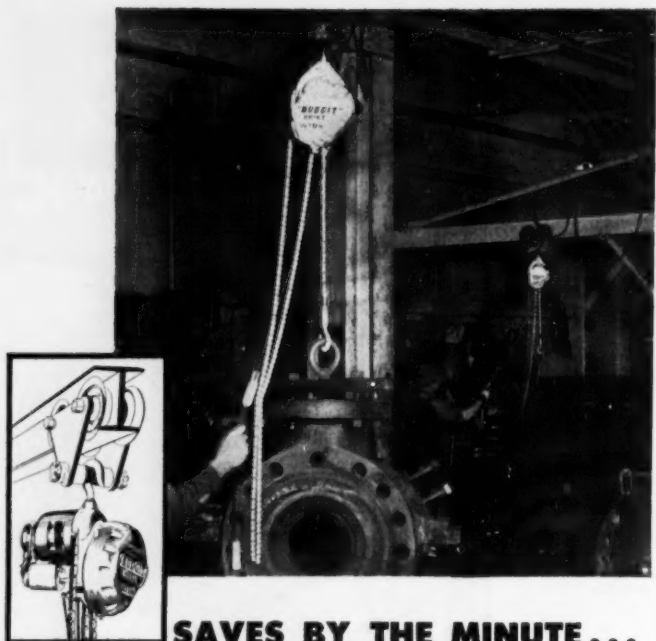
Company _____

Address _____

City _____

Zone _____ State _____

Circle No. 3 on Reader Service Card for more information



SAVES BY THE MINUTE...

'Budgit'® ELECTRIC HOIST

Outdated load-handling methods create costly production jams. That's why so many plants invest in the 'Budgit' Electric Hoist. A slight pull on the convenient control cord of the smallest 'Budgit' lifts 250-pounds with a 34 foot-per-minute speed. One hand is always free to guide the load. Such quick, effortless load lifting boosts output, lowers costs.

The rugged 'Budgit' Electric Hoist has every feature to assure complete safety for man, load, and hoist. So—avoid hazardous heavy manual lifting and the fatigue that goes with it. Give your men more time for production. The 'Budgit' is an easy-to-use portable hoisting unit. No installation expense. Nothing extra to buy. Just hang up, plug in and start economical lifting. Capacities: 250 to 4,000 pounds, A.C. and D.C. models. Prices start at \$119. Ask your nearby "Shaw-Box" Distributor for complete details or write for Bulletin 391.



'BUDGIT' CORD REELS keep conductor cords taut, up out of the way. The cable reels off in all directions — increases the operating range of any hoist, portable tool, or mobile device having motors up to and including 1 H.P.



'Budgit'® ELECTRIC HOISTS **MANNING, MAXWELL & MOORE, INC.** **MUSKEGON, MICHIGAN**

Builders of "Shaw-Box" and "Load Lifter" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, and "American" Industrial Instruments.

Circle No. 132 on Reader Service Card for more information

AD LITERATURE

Continued

Out It Shoots

A new era in shipping room labor aids is described in literature from Marsh Stencil Machine Co. The company's Dial-Taper speeds and simplifies the packaging operation. The worker merely dials the length of tape he desires and out it shoots, already moistened and ready for application.

Circle 139 on Reader Service Card

A Sweeping Improvement

Four times faster than costly pushbroom cleaning is the claim made by Parker Sweeper Co. for its industrial floor sweeper. A complete fact file of information including many case histories and details may be obtained upon request.

Circle 54 on Reader Service Card

Steel Handling Aids

Descriptive literature on welded platform boxes, steel platforms and pallets is available from Powell Pressed Steel Co. The company points out that steel construction cannot be surpassed by any other material when it comes to ruggedness, long life and low maintenance.

Circle 57 on Reader Service Card

Industrial Power Plants

Complete detailed specifications may be obtained from Wisconsin Motor Corp. on its Model VG4D heavy-duty air cooled engine. Where light weight, easy installation and power up to 36 hp. are required Wisconsin claims top performance from the new model.

Circle 79 on Reader Service Card

Tougher Belting

Buffalo Weaving & Belting Co. has a 14-page folder describing its 200 sizes of conveyor belting. They claim to have one for every job in 35 various widths and seven thicknesses.

Circle 7 on Reader Service Card

LIGHTING

(Continued from page 65)

shadows may make seeing uncertain. Often, they conceal real physical hazards.

For general lighting purposes in manufacturing and processing areas, one of several classifications of illumination are recommended. You have only to compare your lighting levels with the recommended levels for comparable seeing tasks to determine a starting point from which to plan the levels of light needed for your various plant operations. The American Standards Practice for Industrial Lighting, released August, 1952, will be of great value in determining amount of illumination required for specific seeing tasks.

Selecting the Light Source

A person planning to install new lighting, or re-vamp old lighting in his plant has three basic types of light sources from which to choose: fluorescent, mercury, and incandescent or filament. A decision as to which type of light source to use should be based on a study of each type's original cost, operating cost, and ability to provide the type of light required for the particular application involved.

Fluorescent Lamps

In general, fluorescent lamps give more light per dollar of total cost than filament lamps, even though the initial cost and maintenance costs of the fluorescent installations are higher in equivalent systems. The fluorescent lamp is approximately two to three times more efficient than filament lamps. The relatively low wattages to which fluorescent lamps are restricted means that more lamps will be required to provide a given level of illumination. But, on the other hand, the greater the number of lights means a better distribution of light sources over a given area. As a result, a more uniform illumination and elimination of harsh shadows can be achieved. This makes them ideal for use in busy, low-ceiling areas.

Mercury Lamps

Mercury-Vapor lamps approach fluorescent lamps in efficiency and,

the Mathews Engineer brings you
47 years of experience in
mechanized handling



In the highly-specialized field of modern conveyor system work, there is no substitute for experience. In Mathews equipment you get that experience, plus the engineering resources and production facilities of three modern plants. That's why we believe you get more for your money—better design—better performance—longer service—when you buy Mathews Conveyers. Write today for Bulletin 852. See what others have done to solve handling problems that might be similar to your own.



MATHEWS CONVEYERS

GENERAL OFFICES Mathews Conveyor Company
ELLWOOD CITY, PENNSYLVANIA

PACIFIC COAST DIVISION . . Mathews Conveyor Company West Coast
SAN CARLOS, CALIFORNIA

CANADIAN DIVISION Mathews Conveyor Company, Ltd.
PORT HOPE, ONTARIO

Engineering Offices or Sales Agencies in Principal American and Canadian Cities
Circle No. 166 on Reader Service Card for more information

Coal and Ashes in N. & F. Silos



The coal is crushed, then conveyed by bucket elevator to the tops of the two large silos (CC). Withdrawal to the boiler room is via a screw conveyor.

Ashes are moved by a bucket elevator and drag chain conveyor to the small silo (A). Trucks are loaded through a drop gate.

The installation is at the Larkin Terminal Warehouse in Buffalo.

This is an example of collaboration between machinery manufacturers and ourselves in engineering systems for handling and storing flowable bulk materials. We'll be glad to study your problem.

Ask for our folder, "Bins With the Strength of Pillars."

THE NEFF & FRY CO. • 110 Elm St. • Camden, Ohio

NEFF & FRY ♦ SUPER-CONCRETE STAVE
STORAGE BINS



**Easier
PALLET HANDLING**
With The New Model "D"

marforge

**PALLET LOAD
LIFT**

THE ONLY
PALLET LIFT
TRUCK WITH
AUTOMATIC
RETRACTABLE
REAR WHEELS

Handles loaded and unloaded double-faced pallets without banging the bottom boards without skidding or dragging the pallet. To handle both single and double-faced pallets use Marforge Model "SD".

WRITE NOW FOR FULL DATA

Market Forge Company
MATERIALS HANDLING DIVISION
75 Garvey St., Everett 49, Mass.

56 YEARS IN THE MATERIALS HANDLING BUSINESS

See us at the Materials Handling Exposition, May 18-22, Philadelphia

Circle No. 41 on Reader Service Card for more information

at the same time, incorporate as much wattage in a single bulb as a filament lamp. Their initial cost is higher than filament however, since like fluorescent lamps, they require auxiliary ballast equipment. Due to their high concentration of light in a single fixture, they work best when installed in high-bay areas.

Often, mercury lamps are combined with filament lamps. This is done for two reasons:

1. The yellow-orange light from the filament sources blends with the sometimes objectionable greenish-blue color of the mercury lamps to provide a cool white light. Recently, fluorescent powders have been used in mercury lights to change the blue color to white and make combinations with filament lights less necessary.

2. The combined system insures light immediately after a current interruption—since filament lamps re-light without delay. Under normal operating conditions, mercury lamps take about seven minutes to come up to full brilliance after the current is turned on. When a power interruption occurs, about five to eight minutes are required for the lamps to cool to a temperature at which the arc can strike again.

A mercury lamp system is recommended for use in high-bay areas where maintenance is difficult. The high brightness of these lamps makes employment of specially designed fixtures necessary. Consideration should be given to the problem of reflected glare in shops where shiny materials are handled.

Filament Lamps

Low initial cost is the most attractive feature of a filament lighting system. Also, they are easy to maintain and simple to re-lamp. By virtue of their simplicity and the large range of sizes available, filament lamps have long done the lighting job in the great majority of industrial plants. They are the least efficient of the three types of lighting available. If lighting is being designed for a lightly traveled area such as a storeroom for slow moving items and where little in-out handling is done, the determining factor which might indi-

cate the use of filament lights is the low cost. Since the lights are to be used infrequently, the less efficient operation is of relatively minor importance. The same would be true of a temporary building which will not be used for a great number of years. The initial cost of the equipment probably cannot be amortized over a long period of time in such an instance making initial cost of primary importance.

Where a great deal of light is required for seeing tasks which are constant for long periods of time, the high cost of operation of the filament lamp makes it unsuitable in most cases.

Yard Lighting

The problems involved in lighting outdoor areas, (outdoor storage area, railroad siding, docks, etc.), are in many ways different from those in lighting the interior of a plant. In the first place, there are no walls and ceilings from which to reflect light advantageously. All light which reaches the ground must be derived directly from the source. This obviously makes efficient utilization of the lights being used more difficult.

Floodlights placed on the roofs of buildings provide a convenient method of lighting outdoor storage yards. Where material is stored in outlying sections, flood lights may be placed on poles or towers, depending upon how the area is used at night and the "scale" of seeing which has to be done. Floodlights on these structures should be placed and adjusted so that there is no glare in the eyes of workers, and so that shadows are reduced to a minimum. It is usually recommended that for the best results outdoors, a larger number of lower wattage lamps be used. Then, if one or several lamps should fail, the effect on the overall lighting of the area will not be readily noticeable.

In June—Supplementary Lighting and Maintenance of Lighting.

FLOW's thanks to the following companies for their help in preparing the preceding material: Benjamin Electric Mfg. Co., General Electric Co., Westinghouse Electric Corporation.

New-type multi-purpose box

**BOOSTS PRODUCTION
CUTS COSTS!**

*Check these
WORK-O-MATIC
features!*



1 WORK-O-MATIC DROP-BOTTOM BOX.

Exclusive Union Metal square corner box of heavy gauge corrugated steel, with outturned 1" triangular bead flanges at top and bottom.

2 CORNER STACKING ANGLES.

Permit safe group stacking—one box on another—saving valuable floor space by putting air space to work. Designed to stop end or side shifting.

3 HINGED CHUTE BOTTOM.

Lowering of operator-controlled truck forks hinges bottom downward, automatically sliding parts into work-level tray.

4 HEAVY-DUTY WORK-POSITIONING STAND.

Receives box from back or sides. Is safely, easily transported by lift truck from one work station to another when desired.

5 CONTROL GATE.

Vertical adjustment controls constant flow of different size parts to service the work station.

6 WORK-LEVEL TRAY.

Feeds parts to work station eliminating costly, tiring, hazardous stretch-bend-stoop methods. Reservoir feature cuts "down time" during interchange of supply boxes.

7 SLOPING TRAY END.

Assures maximum part accessibility. Easily removed during "job finish-off". Speeds job changes.

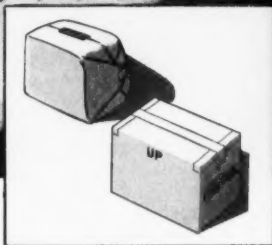
These are only a few Work-O-Matic features making as much as 52.8% production gains at thousands of work stations. Get all the facts by writing to The Union Metal Manufacturing Company, Canton 5, Ohio, for Folder MH-809 and T. & M. Studies.

*Patent No. 2,445,038. Other patents pending.

See this product at Booth No. 1106—Materials Handling Exposition—May 18-22, Philadelphia

UNION METAL
Materials Handling Equipment

Circle No. 71 on Reader Service Card for more information



Custom Protection — prevents shipping damage as no other packaging method known!

How frequently carefully manufactured products are destroyed or damaged on their way to market, due to inadequate packaging protection! Yet there's no excuse for costly shipping damage, as Kimberly-Clark Interior Packaging—KIMPAK® has proved time and again. This modern packaging material of unlimited versatility provides *custom protection* for every type of product.

KIMPAK is soft, non-abrasive, easy to apply and pleasant to handle. It protects against damage to fine finishes due to rough handling, shock and vibration in transit. KIMPAK is light in weight, yet gives more protection than most materials of far greater weight and density—an important factor in reducing the size and weight of packages to offset recent postal rate increases.

Regardless of the product you manufacture, you'll discover, like the Multiplex Faucet Company, that KIMPAK gives maximum protection at lowest true cost. Today, investigate *custom protection*—the safe, smart way to prevent shipping damage. For complete information, write to Dept. B-43, Kimberly-Clark Corporation, Neenah, Wisconsin.



* U. S. REG. U. S.
& FOREIGN COUNTRIES

A Product of
Kimberly-Clark

Circle No. 34 on Reader Service Card for more information



PACKAGING and SHIPPING SECTION

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DEVOTED TO THE MECHANICS OF PACKAGING AND
PREPARATION FOR SHIPPING . . . MATERIAL HANDLING FUNCTIONS

An Easy Index to This Month's Advertisers

Are you looking for a particular type of packaging and shipping equipment? Listed below are advertisers according to the type of product they are advertising in this issue. We have attempted to make your job a little easier by listing them as often as possible. To use this index, find the type

of product in which you are interested . . . turn to the advertisers listed under that product . . . circle the correct numbers on the reader service card, mail it in, and you'll get complete information in a jiffy.

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This new book can cut your rail costs



Whether you run a railroad or ship by rail, you should have this new booklet because it tells how you can save your organization a substantial amount of money. It gives the latest information about the time-tested Evans DF Loader—the Damage Free, Dunnage Free Loader that permits two cars to do the work of three, cuts damage claims and saves on dunnage and labor costs.

What the DF Loader Is

The Evans DF Loader is a system of sturdy cross bars that lock into the side walls of box cars to secure lading against shifting and consequent damage. The DF Loader is permanently built into cars supplied by railroads; there is nothing extra for shippers to buy.

Panels furnished with DF Loaders can be used both as bulkheads and as deckboards, enabling cars to be loaded to the roof without danger of crushing the lower lading. Removable doorway members give full support when cars are loaded completely through doors.

What It Does

Because it secures . . . supports . . . separates even the most awkward shapes and fragile lading, the Evans DF Loader has saved many railroads a substantial amount normally paid out in damage claims. It encourages shippers to load cars heavier, earning extra revenue on every load. In addition, it cuts car turnaround delays; and by saving shippers the time and expense of wooden bracing it helps make rail transportation the preferred low-cost method. DF Loader cars are now available from 30 Class I railroads.

If you want to save money on rail shipments, it will pay you to read this new factual book. Write for your free copy today to Evans Products Company, Railroad Loading & Equipment Division, Dept. AF-4, Plymouth, Michigan. Plants in Plymouth, Mich.; Coos Bay, Ore.; Winchester, Ore.; Vancouver, B. C.

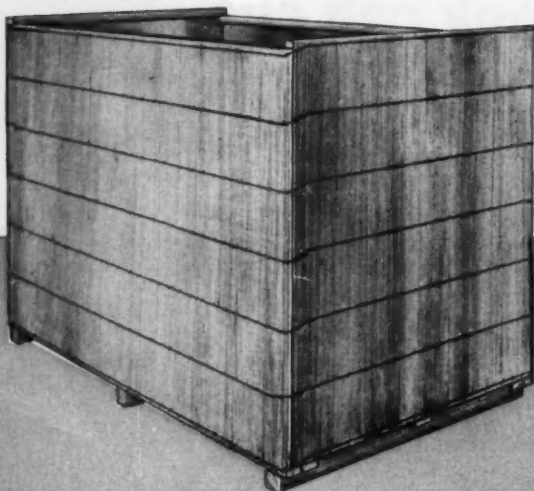
... **EVANS** ... **DF LOADER** ...

LOCKS LADING INTO BOX CARS

TO ELIMINATE DAMAGE & DUNNAGE

Circle No. 20 on Reader Service Card for more information

HOW WOULD YOU MOVE THIS PILE OF PARTS?



it's as costly as this ▶



OR...

as efficient as this ▶



Generalift **PALLET BOXES**

Better check today on this versatile, popular container. The Generalift Pallet Box and fork lift truck is a combination that will substantially reduce your materials handling costs! Picture at right shows how many manufacturers are also using Generalift Pallet Boxes for the more economical storage of parts and materials.

Write for your free copy of "The General Box." It illustrates and describes how manufacturers are cutting container costs.



AMERICA'S FINEST INDUSTRIAL PACKAGING LABORATORY

It is here where more efficient containers are born. We will be glad to study your problem and design a container that best meets your specific needs. Write for complete details.

General **BOX COMPANY**

GENERAL OFFICES: 1857 Minor St., Des Plaines, Ill.

DISTRICT OFFICES AND FACTORIES: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchenden. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston, Dallas

ENGINEERED SHIPPING CONTAINERS FOR EVERY SHIPPING NEED

- Wirebound Crates and Boxes
- Generalift Pallet Boxes
- Generalite Beverage Cases
- Cleated Corrugated and Watkins-Type Boxes
- All-Bound Boxes
- Corrugated Boxes

Circle No. 22 on Reader Service Card for more information

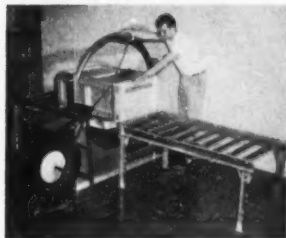
FLOW • APRIL, 1953

WHAT'S NEW... in Packaging and Shipping Equipment

"Production Line" Strapping Machine—

The Jiro, a machine just introduced by F. P. Fletcher & Sons, is said to efficiently strap any size crate. It has a heavy steel frame that supports a ring, mounted on ball-bearing formica wheels. It requires only a two-inch gap in a conveyor line and is adjustable in height. To use the machine, a single operator merely moves the container into position, turns the wheel to position the strap and then tensions and seals in the regular manner.

Circle No. 220 on Reader Service Card for more information



Wrapper Eliminates Stain and "Off-Set"

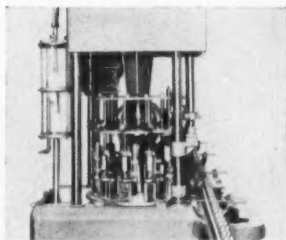
A recently developed laminated protective wrapper is said to completely eliminate the danger of stain and offset. Thilco-Tuf is the trade name adopted for this wrapper by the manufacturer, Thilmany Pulp & Paper Co. It gets its non-staining characteristics from a specially developed blond elastic laminant. Laboratory and field tests have indicated that Thilco-Tuf, when subjected to 200° F. temperatures for 16 hrs. shows no heat bleeding.

Circle No. 221 on Reader Service Card for more information

High-Speed Rotary Filler—

The MR fully automatic liquid filler can handle fractional ounce up to quart size containers with minimum changeover time and it can fill up to 120 containers per minute. Made by MRM Co., Inc., the equipment has variable speed control. Contact parts are made of stainless steel. Hard rubber, lucite or other materials can be supplied if required. Available in vacuum or gravity styles to fill all types of foamy and still liquids, (non-carbonated).

Circle No. 222 on Reader Service Card for more information



Non-Skid Multiwall Bag—

Union Bag and Paper Corp. reports that a special coating applied to the face and back of a new bag it now has placed on the market gives it high skid resistance. A laboratory test consisting of a tilt table with connecting scales showed that the minimum slide angle for the bag was 42°. In another test, a fork truck traveling at full speed was stopped suddenly with enough force to throw off an ordinary load. The stack only leaned slightly.

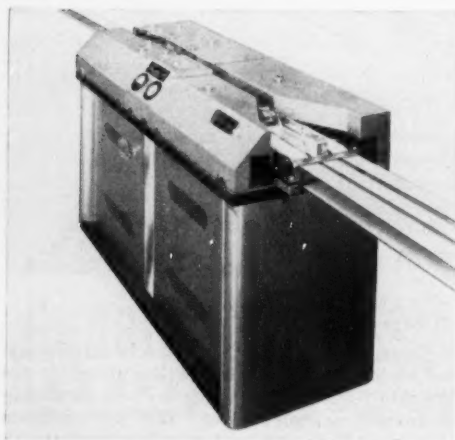
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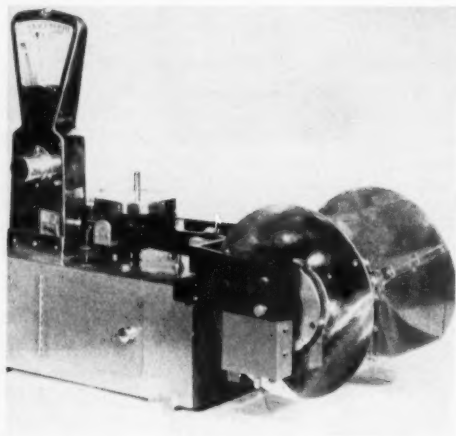
How Much of Your



Deliberate overfilling of packages does not increase consumer sales or product demand . . . purchasers are unaware that they are being given more than the net weight indicated on a product. In the accompanying article, **FLOW** describes the latest developments in scales. They can help you to effect greater economies, meet increasing production demands and utilize your packaging and shipping room personnel more efficiently.



AUTOMATIC CHECKWEIGHING MACHINE for conveyor type production line. It weighs product in motion, and classifies it into separate weight groups of overweight, underweight, and correct weight.



NET WEIGHING UNIT is shown here mounted on 12-lb. capacity over-under scale. Unit may be supplied with automatic electronic controls and feeder machine, or just as shown, without the feeder equipment.

Product Do You GIVE Away?

THE PRACTICE of deliberately overfilling packages to avoid underweights has resulted in several millions of dollars worth of material being given away each year. One of the most important functions of your packaging operations should be to achieve a reduction in the amount of product which is given away, without a corresponding increase in short-weight packages.

Check-weighing

With the entry of modern high-speed production lines, operating with production outputs of 50 to 200 units per minute, elimination of over-filling has become a major cost item for management. Rapidly rising costs of raw products, as well as labor costs, have brought the realization that 100% check-weighing of products during packaging operations is mandatory. It is another method available to manufacturers to ef-

fect greater economies, meet increasing production demands, and to utilize trained labor efficiently.

Types of Weighing Equipment

Scales may be used for net weighing and for gross weighing, and there may be automatic and semi-automatic units available in combination with feeder units.

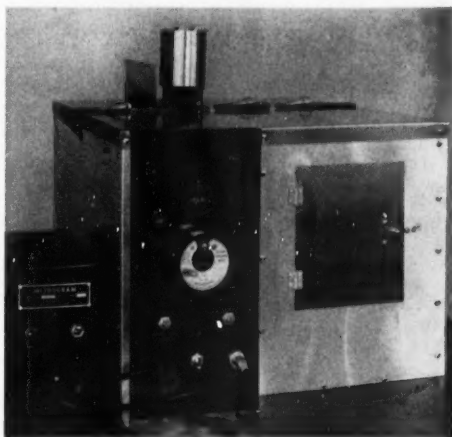
In net weighing, the material only is weighed . . . it flows into a weighing receptacle which has been mounted on a scale level platform, then is discharged into a package after it has been weighed. The method is noted for its flexibility. It is only necessary to change spouts on the filling equipment to compensate for variations in package sizes.

In gross-weighing, material is fed directly into the container and the entire package is then weighed. The scale is set previously in the following manner: The empty container is weighed, and a counterweight

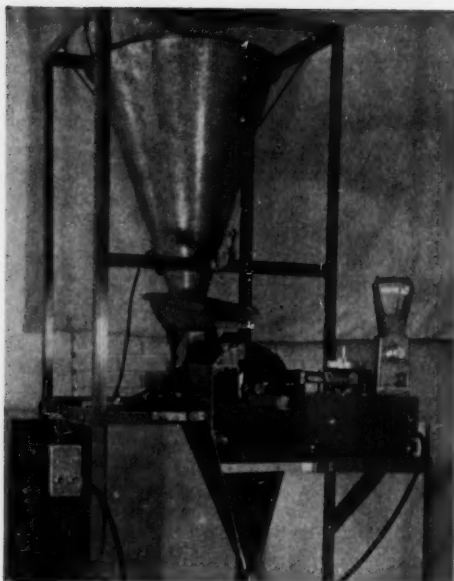
(More on next page)



FILLING SCALE automatically holds, fills, checkweighs and releases up to six bags of material per minute. At start of feeding operation, 95% of material is fed into bag. Remainder feeds in slowly to correct weight.



CHECK-WEIGHER automatically sort pieces and packages, and classifies them by weight. This model features a "pickup and take-away" mechanism. It duplicates hand method of placing packages on scales.



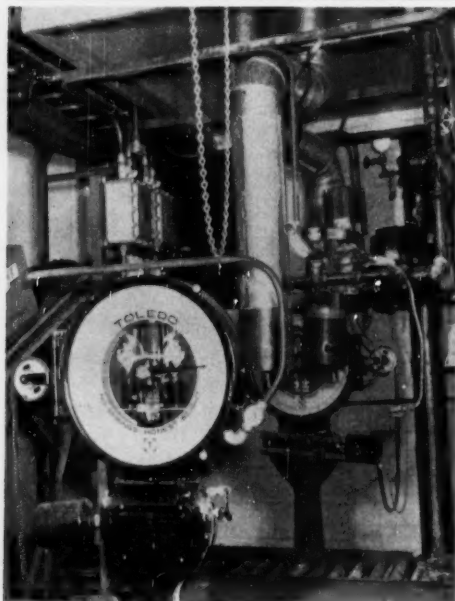
AUTOMATIC NET-WEIGHING MACHINE has feeder hopper and photoelectric control automatic cutoff for accurate and continuous weighings. It is equipped with special 12-pound over-under scale.

container is weighed, and a counterweight is added to offset the amount, or a tare compensator is used. Then, a counterweight is added to equal the desired net weight. In that way, operator needs only to determine container weight or beam tare weight then continue filling containers to balance out the desired net weight. In some instances, gross weighers operate on the principle of bulk filling at one station and finish weighing at another. If this method of weighing is to be applied to high-speed production lines, it is customary to synchronize several gross weighing units, letting each handle part of the job.

Each year, as production methods have been increased in speed, scale manufacturers have kept pace by developing higher speed, more accurate check-weighing equipment. Machines have been developed to weigh, classify and sort overweights, underweights, and correct weights into three separate groups. Packages not within the established tolerance limits are ejected from the production line so that they may be manually trimmed or otherwise corrected.

An automatic filler-correction system is available for use in connection with over-under weighing equipment. Basically, the system consists of a computer which receives package weight signals from the over-under scale. The computer evaluates this information statistically and automatically adjusts the filling machine to bring weights into limits. The filler-correction system operates on the principle of statistical control chart for averages. That is, the computer calculates the average weight of groups of consecutive packages, compares the averages to statistically determined limits, and makes an adjustment to the filler if the average is beyond the limit.

(Continued on page 122)



CONTROL OF DRUM FILLING is accomplished by the scale in photo at left. Automatic chain tare device tares off weight of empty drums. Mercury magnetic cut-off, actuated by the scale indicator, shuts off the valve when drum is filled to correct weight. Installation is at J. D. Street Co., St. Louis.

AUTOMATIC CARTON CHECKER (below), check-weighs cartons of quart cans. Reject cartons are shunted onto spur conveyor to be corrected.

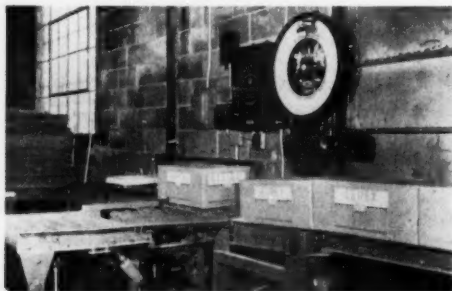




Photo at ALAN-BARR ALUMINUM CO., INC., Palmyra, Pa.

cuts handling costs 20% with Brainard Strapping Service

BEFORE salesman Bob Stuart of Harrisburg put Brainard service to work, these aluminum ingots were stored and shipped loose.

Then Bob, working with his customer's materials-handling engineer, helped develop a more efficient method. The ingots are now emptied directly from the furnace into special cradles on a conveyor belt. The cradles are designed so that unit loads, of 28 ingots each, can be strapped with Brainard heavy-duty strapping while still on the conveyor line. Then the unit loads are

palletized and strapped, ready for fast handling by lift trucks.

Bob's ideas and experience paid off—labor costs are down 20%, less storage space is required, and customers are pleased with the palletized loads.

Ask your Brainard salesman *now* for recommendations—Brainard service can lower costs and boost efficiency in your materials-handling and shipping operations. Brainard offices located throughout the U. S. In Canada: Brainard Steel Canadian Division, Toronto.



COMPLETE STEEL STRAPPING SERVICE,
LIGHT AND HEAVY-DUTY STRAPPING,
TOOLS AND ACCESSORIES

Write for illustrated catalog, Brainard Steel Division, Sharon Steel Corp., Dept. K-4, Griswold Street, Warren, Ohio.



STEEL STRAPPING

Circle No. 149 on Reader Service Card for more information

If You Package Fragile Products

... here's a suggestion for
effective, efficient, inexpensive handling



CONSIDERABLE time and money may often be saved on the total of an operation by reducing the amount of labor required to handle each of the component parts. This is especially true of fragile items such as television tubes, which must be handled several times before they arrive at the set in which they are to be installed.

At Sylvania Electric Products, Inc., with the above objective in mind, a container was developed to hold twenty-four 17-in., or sixteen 21-in. rectangular picture tubes. This not only reduced handling labor, but also provided other advantages.

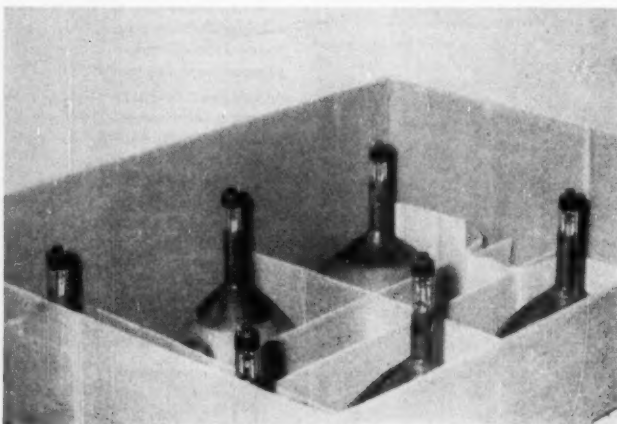
The container is composed of two corrugated paper boxes set upon an expendable wooden pallet base which, when bound together by steel strapping, forms a unit holding the proper number of tubes. The inner packing of each container is designed to enable the tubes to nest together, thus utilizing the maximum amount of space and making the packages as compact as possible.

Since the pallets weigh approximately 500-lb. loaded, they must be handled with a fork truck. Pallets have been designed to permit fork trucks to pick them up from any of their four sides. The long-run savings in material handling costs and storage space should justify this procedure.

(Continued on page 135)

ABOVE—TWENTY FOUR 17 in. rectangular television tubes are contained in this package. Actually, the package consists of two corrugated cartons strapped to a wooden pallet. It was designed for easy fork truck handling.

RIGHT—INTERIOR PACKING permits the tubes to be nested for complete use of space. Here, six tubes have already been inserted with stems up. Six more will be placed in with stems down to give a total of 12 in the box. This carton is strapped to another to form the entire unit.



THE MOST PROFITABLE FLOOR SPACE IN YOUR PLANT!

**TYPICAL USER
SAVES \$7.31^{*}**
per square foot
of floor space
per year...

The Rite-Size Box Machine enables you to *make* and *imprint* corrugated containers in your own plant—as you need them. It produces any size or style box, in small lots or in quantities up to 1,000,000 per year per shift. With its simple controls a complete dimensional change can be made in less than 1½ minutes, and with a single operator unlimited sizes produced without advance planning.

The result: you reduce your box inventory, save storage and manufacturing space, and cut your box costs—no matter what your requirements!

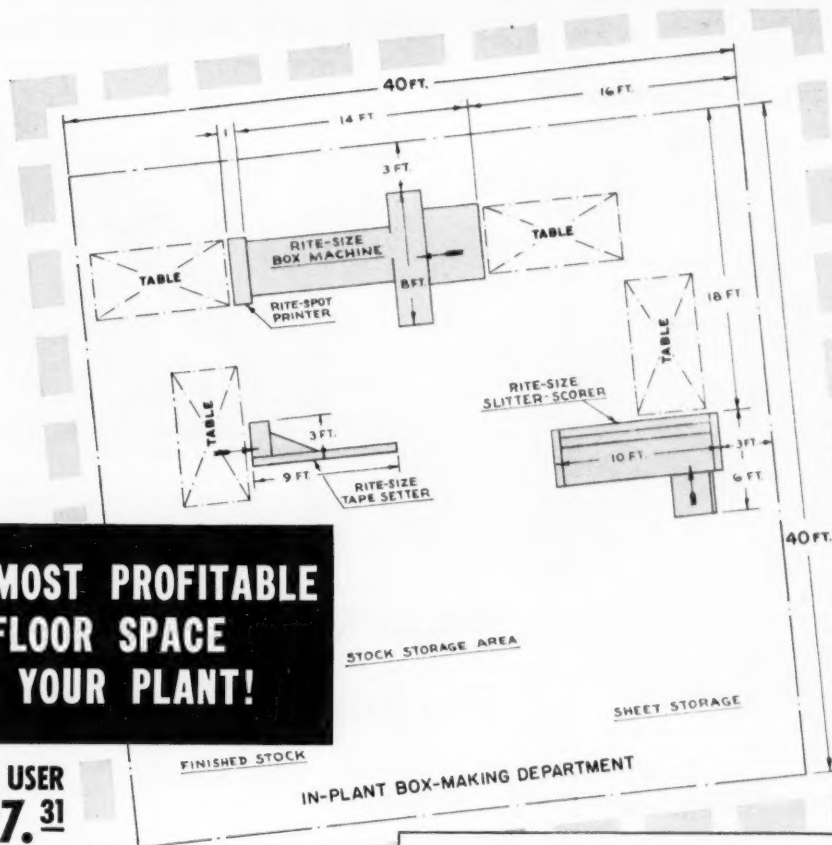
Rite-Size Box Machine
manufactured by



**Makers of the World's
Finest Handguns**

SEE THE RITE-SIZE BOX MACHINE IN OPERATION at the
AMA National Packaging Exposition, Navy Pier, Chicago, April 20—23 Booths 879-880 in South Hall, at the Cross Walk.

Circle No. 103 on Reader Service Card for more information



Read what a few satisfied customers* say about Rite-Size Box Machines:

"Making all sizes, regardless of quantity, and manufacturing 95 different size containers, we saved \$56,000 in 1952, averaging approximately 25% saving over purchased costs from outside vendors."

"We have a requirement of better than 700 sizes. Making each box to the exact size for the item to be packed, we saved 4,300 square feet in warehouse space, as well as additional cube in shipping."

"We make any quantity of a size, dependent only on our production packing department's needs, whether 5 or 3,000 per size. Using pre-cut sheets and cutting 11,000,000 square feet per month, we saved \$44,000 in 1952. For the first time in our history, we experienced no shut-downs of the packing lines because of delays in receiving corrugated boxes. As a result of the Rite-Size Box Machine, our supply of containers was there when we needed them."

*We'll be glad to give you their names.

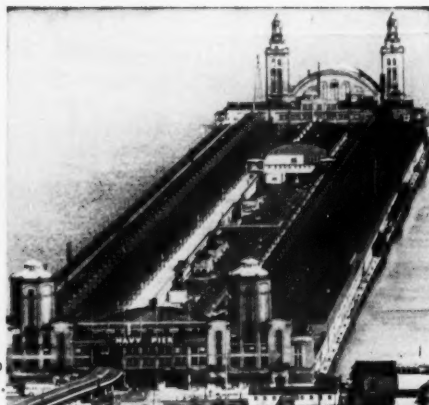
Installations in over 100 plants have proved that the 1,600 square feet of floor space required for your own box-making department pays a higher profit than any other equal space in your plant. And experience shows that most plants, regardless of size, amortize the Rite-Size machine's cost within 1½ years.

Consider the advantages of in-plant box making. Write for our free brochure giving complete information about operating features and costs of the Rite-Size Box Machine. Colt's Mfg. Co., Packaging Machinery Division, Hartford 15, Connecticut.

LIST OF EXHIBITORS

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(Continued on page 125)



NAVY PIER, Chicago
The 1953 site of . . .

22nd National Packaging Exposition

FOUR DAYS of trade show and a three-day packaging conference have been scheduled by the American Management Association at Chicago's Navy Pier starting Monday, April 20, 1953, at 10 A. M., and closing Thursday, April 23 at 3 P. M.

The show, which will occupy both wings of the pier, is expected to comprise some 350 exhibitors of machinery, equipment, materials and services. Conference sessions to be held during the first three days of the meeting only, will cover such subjects of interest to material handling executives as: Monday—"New Approach to Packaging Organization" and "Getting Optimum Performance from Filling Equipment"; Tuesday—"Reduction of Product Damage in Shipping", "Check List of Adhesives and Their Uses", "Specifications for Boxes to Run on High Speed Equipment", and "Selecting the Right Material for the Job"; Wednesday—"Packaging Problems in Redesigning a Product Line", "Packaging of Odd Shaped Parts", "Packing of Fragile Items", and "Measuring Material Handling Truck Performance."

There will be, in addition, subjects dealing with the merchandising aspects of packaging.

The AMA expects an attendance of about 25,000. Attendance is open to anyone having a business affiliation.

Members and non-members of the AMA alike may attend the conference, fees for which follow: Full Conference—\$20; one day, \$10; half day \$6.00. Details can be obtained by writing to the American Management Association, 330 West 42nd St., New York 36, N. Y.

NO MATTER HOW YOU LOOK AT IT . . .

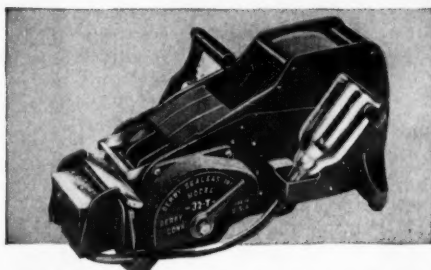
Derby

TAPE DISPENSERS LEAD THE FIELD

- industrial
- commercial
- retail

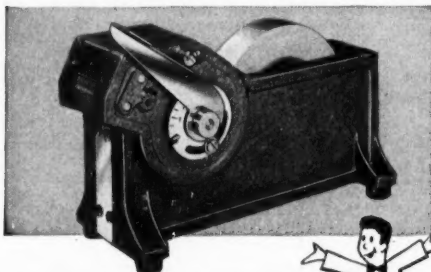


MODEL 80 SERIES Dispense predetermined lengths of the toughest pressure sensitive tapes. Deliver accurate, measured lengths from 1½" to 20" in a variety of widths.



MODEL 32 For general shipping room use — Kraft tapes.

MODEL 32-T For filament reinforced tapes.



MODEL 90 SERIES The only lever-operated tape dispensers that accurately deliver measured lengths of cellophane tape. Ideal for retail counter . . . locker plants . . . all industry.



QUALITY TAPE DISPENSERS FOR EVERY PRACTICAL PURPOSE

Derby's extensive, comprehensive line of tape dispensers are designed to meet specific customer needs. Rugged shipping room models dispense gummed tape or tough, fibrous carton tapes quickly . . . easily . . . accurately to expedite packaging production. Versatile Grip-A-Tab models are designed to deliver predetermined lengths of a variety of pressure sensitive tapes for every purpose from packaging at the retail counter to difficult industrial jobs requiring speed and accuracy. They'll deliver cloth tape, filament, plastic, electric, glass fibre, woven glass, cellophane, acetate fibre, and a host of other pressure sensitive tapes to suit your particular needs. Although each machine is designed for a specific job, Derby and Grip-A-Tab Dispensers can easily be adapted to handle a multiplicity of packaging operations requiring different widths, lengths and types of tape.

DERBY SEALERS, INC. Derby, Connecticut

Circle No. 14 on Reader Service Card for more information

SLOWDOWN In Assembly?

Not when you bundle with a

SIGNODE

POWER STRAPPING MACHINE!



The happiest, most envied man on the production line—and the pace-setter—is the man on the Signode Power Strapping Machine! His job

is easy and light, and well-strapped bundles roll off the line automatically! But faster continuous output is not the only advantage gained.

Power Strapping Cuts Costs Also

Signode's Power Strapping Machine releases several men for other jobs. It does the job of bundling safe and faster, with uniform tension on every strap. The machine is flexible, handling packages of varying sizes without adjustment. It is highly adaptable, strap-

ping K.D. millwork, soft and hard wood flooring, shingles, crating lumber, expensive trim, etc. Strapped millwork and lumber is easier to handle, stack and tally. It can be loaded faster and enjoys protection from pilferage until used on the job.

Let's estimate your needs

Volume shippers usually have varying strapping needs. Let our fieldman survey your production layout and recommend the power

strapping machine for the job. You'll be under no obligation whatever. Write

*Another exclusive service provided and tested for you by Signode

SIGNODE

Steel Strapping Company

2616 N. Western Ave., Chicago 47, Ill.

this seal means security in shipping



Offices coast to coast.
In Canada: The Canadian Steel Strapping Co., Ltd.
Foreign Subsidiaries and Distributors World Wide

Circle No. 162 on Reader Service Card for more information

British Packaging Men Exhibit Their Latest Designs

by JOHN A. LANKESTER
London Editor, FLOW

The importance of good packaging is being increasingly appreciated in England and since the war three exhibitions have been staged. The third Packaging Show, which opened at Olympia, London on January 20, reflects the growth of this industry, and it is particularly significant to note that the total expenditure in Britain on packaging is estimated at about \$850,000 annually. In fact, in the rearmament program more is being spent overall on packaging than on any other single individual item. It is considered of such importance that special sections for dealing with this type of problem have been created in N. A. T. O. and the British Ministry of Supply.

A convention organized by the Institute of Packaging was held during the exhibition at which lectures and addresses were given by leading experts in the various fields of packaging technique.

Americans who have visited Britain, and been shocked (frequently with ample justification) at the unhygienic handling and packaging of food products there, may be interested to learn that things are improving considerably in this particular respect.

Electronic counting devices are being increasingly employed to step up speeds and efficiency in all phases of packaging. For example, Walker Ward, of High Wycombe, England, exhibited a portable electronic paper-counter, consisting of a stylo-head and a desk-unit. This apparatus can be plugged into the nearest light socket, consumes only 60 watts.

Other machines were demonstrated filling bottles at a rate of 100 per minute, and string-tying machines were shown which take only 1½ seconds to tie up parcels.

Numerous examples of steel-strapping machines were on display, one of which, was a seal-less strapping machine.

Altogether, about two hundred exhibitors made up a well-laid-out and most interesting show.



Give Your
Product a
**SALES
LIFT**
with
**REYNOLDS
ALUMINUM
FOIL PACKAGING**



... and see how you can slash hand-labor costs and pilferage!

Lift, roll, *push* production. But remember at the end of the line is a *pull*... a sales pull. That pull must come from everybody your product meets... wholesalers, retailers, PA's, final users. And to them *the package* is your salesman... a salesman now all-important because everybody has become package-conscious, from toolroom clerk to Joe Consumer.

That's why industrial manufacturers are now taking lessons from the spectacular sales successes of Reynolds Aluminum Foil packaging in foods, candy, gum, cigarettes. They see that *nothing sells like foil*. They know that *nothing protects like foil*. So they call in the

Reynolds expert to talk foil packaging. AND THEN SOMETHING ELSE HAPPENS.

Often the Reynolds man opens up a whole new picture of *automatic machine packaging*, using self-sealing laminations of Reynolds Aluminum Foil. Now the manufacturer sees hand labor eliminated... hand labor that sometimes costs more than the material being packaged. In many cases where pilferage has been a serious factor, he can eliminate that, too.

To develop just such complete packaging programs—as well as the packages themselves—is the function of Reynolds, world's largest producers of aluminum foil. Whether your product can best use

simple foil wrapping or foil-laminated pouches, over-wraps, canisters or cartons, our representative can advise you fully—including details of machine operation. Call the nearest Reynolds Sales Office or Reynolds Metals Company, General Sales Office, Louisville 1, Ky.

Foremost Producer of
Materials for
**MILITARY
SPECIFICATION
PACKAGING**

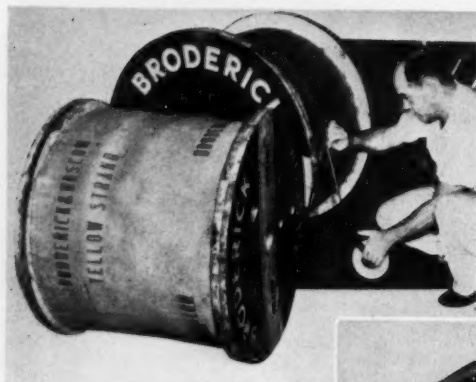
Consult the Reynolds man
on what to use and how.



REYNOLDS ALUMINUM

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC Television Network. HEAR "Fibber McGee and Molly," Tuesdays, NBC Radio Network.

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LARGE OR SMALL items can be given protection and identification at the same time with trademarked protective papers. It is easily applied in either instance.



Protect and Identify Your Products....

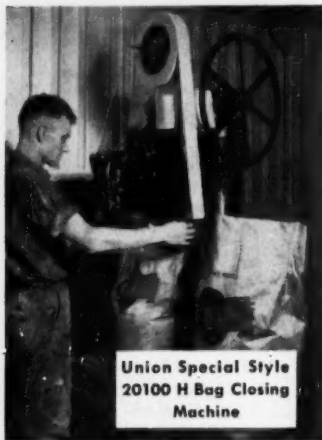
with protective
imprinted papers
bearing your
company trademark

UNTIL RECENTLY, there appeared to be two definite classifications of functional papers: 1. The "work horse" types which served industrial needs were usually designed with function almost the only consideration; 2. Those produced for the retail or re-sale market and which carried some eye-appealing identification of the place of business or which conveyed the impression of quality merchandise. With the latter type, product protection was all too often only incidental.

Today, the trend is more and more toward a combination of these two functions. Trademarked papers are available for all types of industrial shipment from the smallest parts like twist drills and automotive parts to wire rope reels and the like. The papers permit manufacturers to give their products the protection they need from rusting conditions, dirt and abrasion. At the same time, they permit easy identification of otherwise "look-alike" items.

Twist drills provide an excellent example of the importance of trademarked papers. To most people, all drills look essentially alike. A manufacturer who has built up a reputation for making highest quality drills can easily differentiate his product from others with trademarked papers. At the same time, the necessary protection from rusting, and damage to sharp edges, is provided.

Photos Courtesy of
Thilmany Pulp & Paper Co.



Union Special Style
20100 H Bag Closing
Machine



Ask for a copy
of this Bulletin

Get your copy of Bulletin No. 200 containing illustrations and helpful data charts for the complete Union Special line of bag closing machines.



FOR lower production costs... stronger, neater closures... ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

In the Union Special line, it's easy to find the right unit to meet your requirements. ASK FOR RECOMMENDATIONS.

Union Special

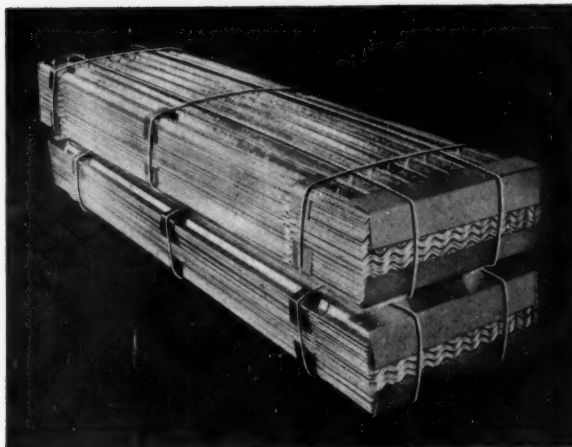
MACHINE COMPANY

415 N. FRANKLIN ST., CHICAGO 10, ILLINOIS

Circle No. 148 on Reader Service Card for more information

**Want to wrap a light package?
... or a carload of sheet steel?**

**Gerrard has a tie for every bundle,
large or small!**



GALVANIZED STEEL CORRUGATED ROOFING TIED with five Gerrard #8 gauge straps.



THE GERRARD B.S.M. TWINE SEALING MACHINE will wrap bundles up to 14" in width and 9" in height.

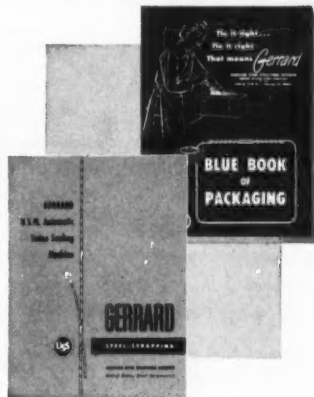
WHETHER you are wrapping small packages or huge palletized loads, Gerrard has the answer to your tying problem. The Gerrard B.S.M. Twine Sealing Machine for lighter bundles is automatic and easy to operate... place the package in the tying area, step on the pedal, and in three seconds the twine is wrapped around the bundle, drawn to a pre-set tension, securely fastened with a non-slip metal seal, and cut. The seal is pilfer proof... the bundle is locked closed until the twine is cut. And since it can make 30 seals a minute and consumes far less twine than is used in hand tying, the Gerrard B.S.M. Twine Sealing Machine is a real money saver. It may be just what you need in your mailing and

shipping department to save you time and money while doing a better tying job.

★ ★ ★

For the heavy tying jobs, you'll need a strong, safe strap, one that will keep any bundle tight and intact from plant to destination. Gerrard Round Steel Strapping in 8 to 18½ gauge was designed for the strapping of small packages, large cartons or crates, heavy cases, pallets, steel sheets, pipe and machinery. Gerrard Round Steel Strapping costs about 40% less than any other metal reinforcement. With Gerrard's hand-operated machines, or the semi-automatic Model Q, the strapping can be firmly secured for the longest and most rigorous shipments.

**SEND FOR FREE COPY
OF BLUE BOOK OF PACKAGING
AND B.S.M. FOLDER**



GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
2937 West 47th Street, Chicago 32, Ill.

U-S-S GERRARD STEEL STRAPPING

UNITED STATES STEEL



Circle No. 115 on Reader Service Card for more information

52 YEARS OF BETTER BOXES—"THE American WAY"



metal
containers
ship better
for LESS

in
American
wirebounds

Save C. D. Losses, Manhours, Shipping Weight

The perfect package for your metal containers! Ship them in American Wirebounds for **complete protection at lower cost**. They guard the above lard cans against all C. D. (concealed damage) losses with lab-tested, open-type, engineered construction. Quick, easy wrap-around assembly reduces packing and unpacking time. They ship lighter than nailed-wood crates, stack better without weaving and handle easier. American Wirebounds offer you the latest scientific advances in modern, strength-tested packaging for metal containers, and save you money at every shipping level. Get the proof! Send us your metal container, or product, for a sample packing and "quote". No obligation.

★Thousands of acres of timber, three veneer mills, two great plants in Cleveland, Ohio, and Marion, S. C.



THE American BOX CO.

1909 W. 3rd Street
Cleveland 13, Ohio

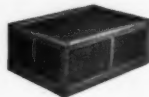
Phone: SU 1-5200

Marion,
South Carolina

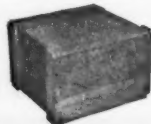
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American Wirebound Crate,
Tote Box, Pallet



American Fibreboard Box



American Nailed Wood Box

HOW MUCH DO YOU GIVE AWAY?

(Continued from page 112)

Counting by Weight

Many products are packaged and sold by count . . . a certain number of units per package. Small hardware units, such as screws, nails, nuts, bolts, fall into this category. Other applications, such as in the pharmaceutical line, include pills and capsules. Wherever controlled uniformity of the commodity exists, great labor saving can be effected by determining the weight of a predetermined number of the units and then weighing the products when packaging.

Building Scales into Conveyor Systems

Oftentimes, scales can be built into conveyor systems in conjunction with filling and packaging lines, to help keep weights of packages within accurate limits. Two such applications are at J. D. Street Co., St. Louis. Cartons containing quart cans of anti-freeze move along a conveyor to a point where the conveyor passes over a scale. If a carton is out of weight tolerances, a photo-electric cell on the scale dial actuates a lifting mechanism that raises one side of the scale platform, causing the rejected carton to slide onto a spur conveyor, where corrections are made.

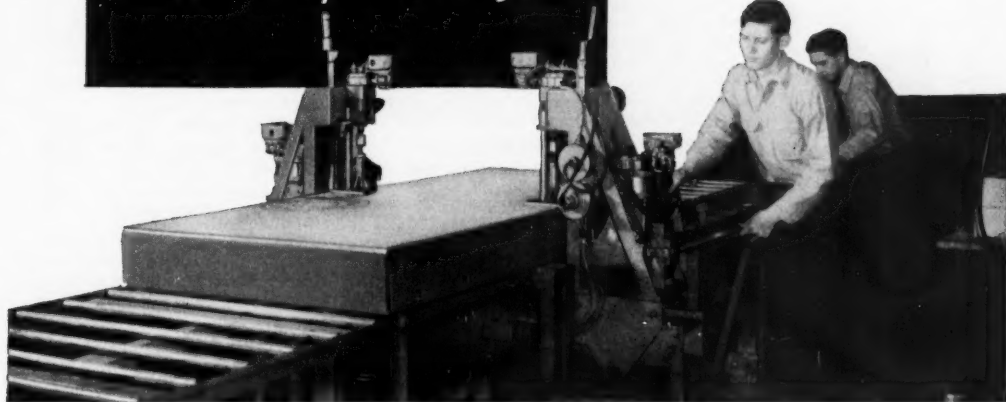
At the same plant, a second scale issued in the filling of drums. The scale has an automatic chain tare device for taring off the weight of the empty drums, and a zero tolerance control to assure that the scale indicator is at zero before filling can be started. A mercury magnetic cutoff, actuated by the scale indicator, shuts off the valve when the drum is filled to correct weight.

Auxiliary Equipment

Other equipment which is available for use in conjunction with weighing devices to help you cut costs in your packaging operations are:

Range Computer—Portion of statistical control equipment which is manufactured by one company. A unit to calculate the difference between the

EXCELSIOR CO.
 staples bicycle cartons
 saves **\$11,000** a year



with International Stapling Machine



A daily savings of \$36 . .
 \$925 a month . . \$11,000
 a year . . through the
 use of an International
 Retractable Anvil Stapling
 Machine!

Yes, these are actual
 cost reduction figures re-
 ported by H. W. Snyder,
 president of Excelsior
 Manufacturing Co.,
 Michigan City, Indiana

. . and also Excelsior's parent company, H. P. Snyder Co., Little
 Falls, New York . . both nationally known manufacturers of
 bicycles.

Mr. Snyder has this to say about the multi-head retractable
 anvil stapling machine in use at the Michigan City plant:

"Our packing costs are way down. Formerly we had 7 men
 in this department . . but now with our International Stapler,

we use only 4 men. This frees *three men for other important work*
 in our plant.

"Carton stapling is faster. The per-man closure of cartons
 with the stapling machine is 19 . . compared to only 11 in the
 same period, using glue.

"Shipping and warehousing damages are reduced. We
 find holding qualities of staples excellent . . stapled cartons do
 not open in transit as was frequently the case when we glued
 our cartons.

"Working conditions are cleaner. With staples, we have no
 mess . . carton appearance is improved because we do not have
 the problem of glue spillage."

If you ship in corrugated or fibre cartons, an International
 Stapling Machine will close them better, faster and more
 economically. Write for details.

Have you seen the new sound-movie, "Package for Profit"? It
 shows International Stapling Machines at work in plants of well-
 known manufacturers. Ask about bookings.

Package for profit . . use International Staples for faster, finer closures

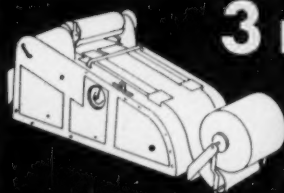
a seal of security



INTERNATIONAL STAPLING MACHINES

International Staple & Machine Company
 808 East Herrin Street, Herrin, Illinois

Circle No. 154 on Reader Service Card for more information



3 label problems solved by one machine in one operation



1 HOW CAN QUANTITIES OF LABELS BE PREPARED WITH THE SAME INFORMATION . . . QUICKLY AND EASILY?

Type a stencil with the information, slip the stencil on the Weber Tag-O-Graph KC-E, set the automatic counter for the number of labels needed, and press the switch. That's all you have to do to get shipping and identification labels that are printed, addressed or marked, counted and cut to size . . . at the rate of 100 per minute.



2 HOW CAN THE HIGH COST OF PRE-PRINTED LABELS BE AVOIDED?

Print your own labels at the same time you're addressing or marking them. We can die-cut your stencils, in quantity, to print any style label or form you want. Firms now using the Tag-O-Graph KC-E are saving up to 3/4 of their former label costs.



3 HOW CAN WE SYSTEMIZE LABEL PREPARATION?

Let one versatile machine do all the work. The Tag-O-Graph KC-E produces a completely prepared label. It gives you practically any size label you want in gummed or ungummed stock. It gives you the kind of labels you want, when you want them, in the exact quantity you need . . . all at a moment's notice.

SEND FOR FOLDER AND LABEL SAMPLES

If you are now using large quantities of shipping or identification labels, or if a Government contract has suddenly presented a new labeling problem, it will pay you to look into the advantages of the Weber Tag-O-Graph KC-E.

Weber-Addressing Machine Co.
Label and Marking Systems Div.
232 W. Central Rd., Mt. Prospect, Ill.

Send descriptive folder on the Tag-O-Graph KC-E and samples of labels printed by this machine.

company
address
city state
name title

Weber

Addressing Machine Co.
Label and Marking Systems Division
Mount Prospect, Ill.

Shuman T. Mason, Representative, East 548 Calma Station, San Francisco 23, California



Stencil hand printers for fast, inexpensive addressing or marking of tags, boxes and labels.

Model K Tag-O-Graph addresses and marks 150 pre-printed tags or labels per minute



HOW MUCH DO YOU GIVE AWAY?

Continued

maximum weight package in each group of consecutive packages. When this difference, (range) between the heaviest and lightest packages is larger than pre-set limits, a warning goes into operation.

Distribution Tabulator—Also part of statistical control equipment. Receives individual package weight information from the weighing equipment and classifies each package according to its weight.

Bagging Scales—Equipment for use in bagging free-flowing materials like carbon black, chemicals and feed. They are available in models which may be operated manually, or semi-automatically, to suit conditions.

Photo-Electric Equipment—Can be used to shut off filling equipment when correct weight is achieved. When proper weight of product flowing into container is reached, scale beam rises, intercepting light beam, and cutting off product flow.

This report is intended to be a brief rundown of the many weighing devices available to you for the packaging of bulk material and small items which are packaged in bulk.

FLOW's thanks to the following companies for photographs and information for use in the preceding survey: Consolidated Packaging Machinery Corp.; Detecto Scales Inc.; Exact Weight Scale Co.; H. A. Hadley Associates, Inc.; Stokes & Smith Co.; Thayer Scale and Engineering Corp.; Toledo Scale Co.; U. S. Automatic Box Machinery Co. Inc.

In future issues, FLOW will delve deeper into the subject of weighing materials during packaging operations. In the meantime, if you are confronted by special, unanswerable weighing problems, let us hear about them, and we will try to help.

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Packaging costs were reduced by as much as one-fourth when the Fafnir Bearing Co. adopted the Stanley Steel Strapping System.

In almost every type of plant—with almost every type of product—substantial savings are being made in packaging and handling

by this cost-cutting system. Put it to work for you. Call in the Stanley Packaging and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. There's no obligation. Just mail the coupon. Branch Offices or Representatives in 32 principal cities.

STANLEY STEEL STRAPPING SYSTEM

* A MAN thoroughly experienced in steel strapping applications — the Stanley Packaging and Shipping Engineer

A METHOD adaptable to any requirement — the Stanley Steel Strapping System



See us at Booth 1009



HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

THE STANLEY WORKS, Steel Strapping Division
1202 Lake St., New Britain, Conn.

- ☐ Yes — the 30-day trial interests me. Have the Stanley Packaging and Shipping Engineer call.
- ☐ Send me complete information about the Stanley Steel Strapping System.

(Please write name and address in margin of page)

Circle No. 156 on Reader Service Card for more information

SAVE 20%
on sealing costs!



"Dial" gummed tape electrically

The new Marsh Dial-Taper is real news to users of gummed tape. Dispenses all kinds, in widths to 3", electrically. Select your length on the telephone-type dial, dial it, and out it shoots moistened with warm water. Sticks instantly. Saves 1/5 on tape, often more in man-hours.

For more information or a free demonstration mail us this ad with your name and business letterhead

MARSH Electric
Dial-Taper

MARSH STENCIL MACHINE COMPANY
67 MARSH BLDG. • BELLEVILLE, ILL.

Cut Shipping Costs!
MAKE YOUR OWN
PALLETS
with



Xpendo-
pac

EXPENDABLE FIBRE



POSTS



DECKS



RUNNERS

Designed to meet your specific needs. Precut—ready to assemble as used. All you need is a glue pot.

Write for complete information on this NEW cost-cutting materials handling development.

Made under Addison-Semmes Corp. Patents



CENTRAL FIBRE PRODUCTS CO., INC.
Quincy Container Division
130 JERSEY • QUINCY, ILLINOIS • PHONE 8700

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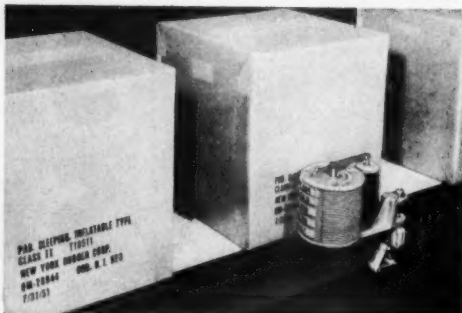
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Low-cost conveyor attachment
marks cartons, cases automatically



Save man-hours now used for manual marking. Attach a ROLACODER Imprinter to conveyor or case-sealer and eliminate the cost of stencilling or rubber-stamping. Get neater, cleaner, more accurate marking, too. Friction-operated, self-inking. Copy changes made in minutes. Pays for itself in weeks.

See the ROLACODER and other Gottscho package marking and imprinting machines at the PACKAGING EXPOSITION, CHICAGO, Apr. 20-23



ADOLPH GOTTSCHO, INC.
Hillside 5, N. J.

50TH
YEAR

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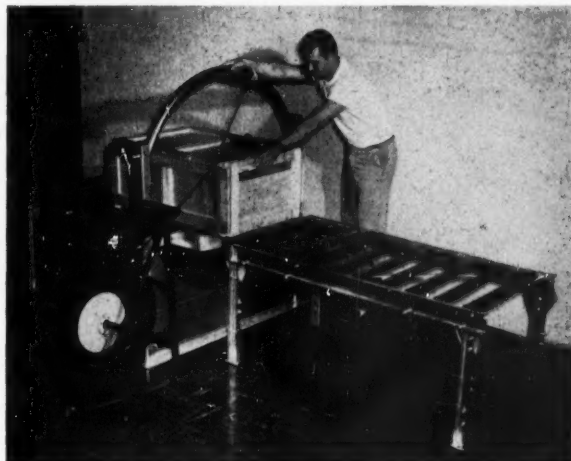
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Jiro

straps it

The Jiro, unique in the strapping field, enables one man to position the strap around the box for tensioning and sealing—it steps up production, reduces labor costs and keeps fatigue at a minimum. A rugged steel frame supports a ring, which rotates on ball-bearing formica wheels, built to withstand hard production usage.



F. P. FLETCHER & SONS

150 W. Green St., Pasadena, Cal.

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2000 S. MAIN ST., QUINCY, ILL.
QUINCY, ILL. 62450

*General Office, Quincy, Illinois

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Folding and Set-up Boxes
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Boxboards—Can, Tubs and Cap
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Yuma, Iowa Denver, Colorado
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Eggerts & Flynn, Omaha, Nebraska
Inland Paper Box Company, Denver, Colorado
Marshalltown Container Co., Marshalltown, Iowa
Pumery Manufacturing Co., Vincennes, Indiana
Quincy Container Division, Quincy, Illinois
Western Paper Products Co., Salt Lake City, Utah

FOLDING AND SET-UP BOXES

American Folding Box Co., St. Louis, Missouri
Bruce Carlton Company, Memphis, Tennessee
Continental Paper Products Co., Denver, Colorado
Eggert & Tilling, Omaha, Nebraska
Western Paper Products Co., Salt Lake City, Utah

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you need**



Thermostatically controlled
water heater, extra.

Better Packages, INC.
WORLD'S LARGEST MANUFACTURER OF TAPE DISPENSERS

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REPLACEMENT? SERVICE?

TRY COUNTERBOY 120

The all purpose gummed tape dispenser for shipping department or factory production jobs. Adjustable Moistening Control.

ASK FOR BOOKLET NO. 252

Fully describing and illustrating many different machines that are speeding up and saving gummed and pressure sensitive tapes on various packaging operations in shipping, pre-packing, and production departments.

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Plant No. 1D, 253 Canal St., Shelton, Conn.

- ☐ Please ask your representative to call and explain the advantages of Counterboy 120.
- ☐ Send your booklet No. 252 describing 47 different gummed and pressure sensitive tape dispensers.

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FIRM NAME

STREET

CITY

STATE

Circle No. 94 on Reader Service Card for more information

FREE LITERATURE YOU CAN GET ON PACKAGING & SHIPPING PRODUCTS...

Strapping Aid:

F. P. Fletcher & Sons offers a bulletin on the Jiro for positioning strap for tensioning and sealing. It has a heavy steel frame that supports a ring mounted on ball-bearing formica wheels. It needs only a 2-inch gap on the conveyor line and is adjustable in height.

Write in 265 on Reader Service Card

Car Loader:

The Evans Products Company has published a booklet on the DF Loader, a load-locking, load-securing device. The booklet, both a handbook and a descriptive brochure, cites examples of how both shippers and carriers have saved money through use of these loaders.

Write in 266 on Reader Service Card

Slitter:

The Little Inch No. 5S slitter for sealing or closing bags, boxes, packages or envelopes is described in a bulletin from Better Packages, Inc. It handles 2592-inch rolls of cellophane or acetate fibre tapes in widths up to 1 inch, and slits as it feeds 1-inch tape into two 1/2-inch widths.

Write in 267 on Reader Service Card

Tough Corrugated Box:

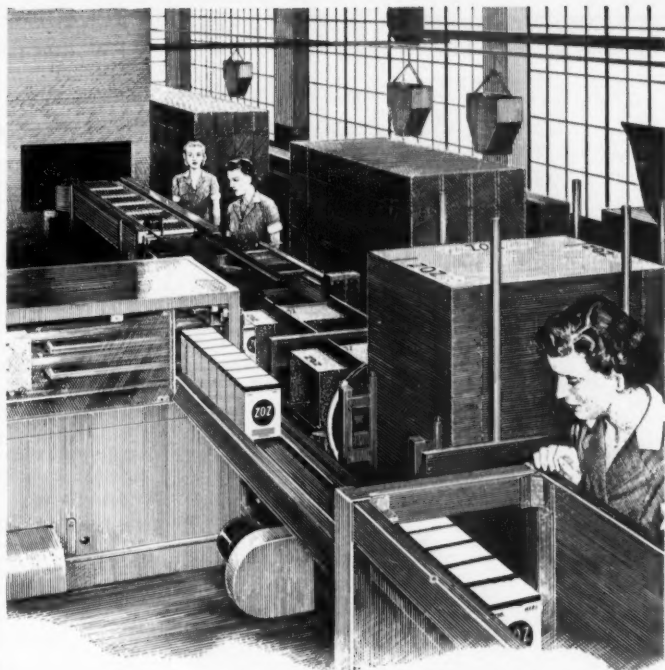
The Tufedge corrugated box, a shipping box specifically designed for use by manufacturers of canned products or heavy metal equipment, is described in a brochure from Shelton Manufacturing Company, Inc. Construction features are explained and illustrated.

Write in 268 on Reader Service Card

Automatic Tape Dispenser:

Seven Clip-A-Tape improvements for better sealing and longer service are listed in a bulletin from Ideal Stencil Machine Company. This automatic gummed tape dispenser may be used for standard gummed kraft, string-filled tapes, reinforced tapes and cloth tapes. Specifications are included.

Write in 269 on Reader Service Card



Gaylord Boxes Assure Faster Packing On Your Production Line

Products manufactured on precise time schedules require constant standards of accuracy... every step of the way.

For example—no matter how your shipping containers are sealed—stitched, stapled, strapped, taped or glued—Gaylord accurate scoring assures fast, easy handling.

Production-wise it's good business to ship your products in Gaylord Boxes.

Get in touch with your nearest Gaylord representative for prompt service.



Their unseen quality gives you an extra margin of safety.

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CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES
Circle No. 117 on Reader Service Card for more information

Circle No. 114 on Reader Service Card for more information

NEW! REVOLUTIONARY!



Cycle Numbering and Marking ROBOT

Automatic multiple marking unit . . . installs on production line. Prints in cycle: dates, code numbers, serial numbers, groups of numbers in combination . . . in various positions . . . on products, cans, containers, packages, cards, etc. Write for specification sheet and catalog.

Mounted on platform with automatic slide for multiple numbering of work cards.



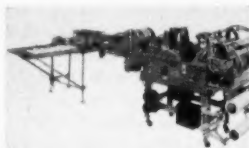
WM. A. FORCE
& COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N.Y.

PACKAGING & SHIPPING NEW EQUIPMENT . . .

(Continued from page 109)

Stacker-Counter-Sorter Attachment—

A stacker-counter-sorter attachment for Polyethylene bag making machines has been announced by Simplex Packaging Machinery Inc. It is said to make it possible for one operator to supervise several bag making machines. The attachment consists of a movable stacker, and a conveyor belt on which groups of 10, 25, or 50 polyethylene bags are sorted in stacks. A metering device keeps count of the number of individual bags and total number of stacked units.



Circle 224 on Reader Service Card for more information

Label Gluer—

The Glue-Fast Equipment Co., Inc., manufactures a glue spreader for use with labels for containers made of glass, wood, and metal. To use the machine, unglued labels are fed through it and come out ready for use. A double-roller sys-

Perhaps you too can slash packaging costs with TAPE-STRAP®

Save time, cut costs, give better protection! These are the end results for literally hundreds of shippers who have switched to Tape-Strap, the dependable, unbelievably strong reinforcing material.

Some save up to 85% in packaging costs. And shipping room operations go faster because Tape-Strap is so easy to apply. It's put on without pressure, requiring no special equipment. And because it has no sharp edges, it's safer, of course.

Tape-Strap has a center layer of resilient, shock-absorbing material that carries embedded lengthwise in it, thousands of tiny filaments. Sandwiching these filaments is tough pliable kraft, with a deep coating of finest, water-soluble gumming that assures instant permanent adhesion.



Don't try to break Tape-Strap. You can't do it.
And so you know your packages are safe.



APPROVED—Tape-Strap is approved by the Official, Southern, and Western Classification Committees (Rule 41, Sec. 8 (b), Supp. 29, C.F.C. No. 19), and by Railway Express Agency, Inc. (Rule 18 Packing Requirements—Sealing). Tape-Strap qualifies for military packaging under specification MIL-T-4601 (USAF).

FREE SAMPLE ROLL—Write for free sample roll and test Tape-Strap's astonishing strength on your own containers.

LEADERS IN THEIR LINE

MID-STATES Gummed Paper Company
2511 S. DAMEN AVE., CHICAGO 8, ILLINOIS

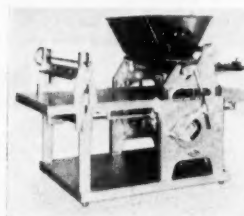
BRANCH OFFICES: New York • Boston • Philadelphia • Cleveland • Detroit • St. Louis • Atlanta • Los Angeles
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tem is said to insure even, uniform glue distribution. It is available in stock sizes; a six in. model takes all labels up to 5 3/4 in. wide, regardless of length, and a seven in. model is for wider labels.

Circle 223 on Reader Service Card for more information

Fills 120 Containers Per Minute—

A new Geyer six-line filling machine that fills and caps up to 120 paint, lubricant and chemical



containers per minute has been developed by the Filler Machine Co., Inc. It fills from several ounces to quarts. Sizes up to gallons can also be handled by addition of a few parts. Containers can be fed automatically or manually. One

operator is required to put caps on as the cap pressing device presses them tightly in place. Operation is said to be smooth and starting and stopping impulses are minimized because containers are indexed through the machine by a combination walking beam and pinplug type push rods.

Circle 226 on Reader Service Card for more information

Can You Use These PACKING SPACERS too?



★ CYLINDERS

★ BLOCKS

★ ROLLS

(hard or soft)

Core Diameters:
1 1/2, 2 1/4, 3, 4, 5, 6,
7, 8, 10, 10 1/2 inches
Outside Diameters:
Up to 14 inches
Length of Rolls
and Blocks:
From 3/4 to 48 inches

Shippers all over America are finding ways that Central Fibre Packing Spacers can help them protect their products better and at lower cost.

Send for a sample assortment now!



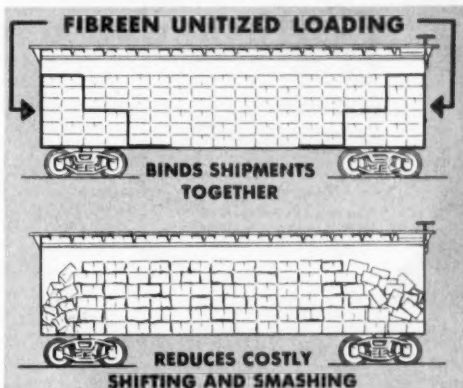
CENTRAL FIBRE PRODUCTS CO., INC.

Quincy Container Division

130 JERSEY STREET • QUINCY, ILLINOIS • PHONE 8700

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FLOW • APRIL, 1953

STOP DAMAGE WITH THIS TOUGH, LOW-COST RETAINING PAPER



ON HUNDREDS OF SHIPMENTS **FIBREEN** IS REDUCING DAMAGE CLAIMS 60% TO 80%!

Waterproof, reinforced Fibreen—the toughest paper—holds shipments together as a unit, in spite of freight car jolting... humping and shunting.

Thousands of safe shipments are proof that unitizing loads with Fibreen is doing an outstanding job in preventing cartons, bags, etc. from being smashed in end-wells and voids.

Maybe it's the answer to your damage problems. Write to Dept. F-4 today for complete details on unitized loading and information on Fibreen for packaging.



The **SISALKRAFT Co.**

Chicago 6, Ill.

New York 17, N. Y. San Francisco 5, Calif.

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131

Towsley

INDUSTRIAL FLOOR TRUCKS
for every materials handling purpose



No. 737

Plate Glass Handling Truck. Glass is conveniently loaded on truck and lifted by crane to highway trailer.

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Step up your plant operation! Towsley Task Tailored Trucks accelerate handling of products of unique construction with trucks specifically designed for their mobility.

Towsley designs, engineers, builds trucks to your requirements, your specifications, your satisfaction.

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Bulletin 50 General Purpose Trucks
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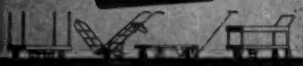


No. 462

Special A-frame Truck. Folding and removable shelves allow vertical stacking of varied size plate glass parts.



TASK-TAILORED TRUCKS



TOWSLEY TRUCKS, Inc.

176 Elmore Street, Cincinnati 23, Ohio

Circle No. 70 on Reader Service Card
132

MEN . . .

(Continued from page 36)

. . . at Acme Steel Co.

Carl J. Sharp, president of Acme Steel, has announced the appointment of **Michael Burtyk** as superintendent of the company's new Scarborough Works at Toronto, Ontario, Canada. Construction of the plant is nearing completion and production is expected to get underway soon. Burtyk has been with Acme for 23 years and formerly was general foreman of manufacturing at the Riverdale plant.

. . . at Feb-Weld Corp.

Frank W. Bruckerl, president of the company, announced the election of three new officers at the recent annual meeting of the board of directors. They include **George J. Hanhauser**, executive vice president; **Robert F. Bole**, vice president and **J. H. Rementer**, secretary-treasurer.

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Opens Doors in 20 seconds or less!



The Nolan Car Door Opener gives one man a tremendous amount of pulling energy, to get the most stubborn, hard-rolling door wide open in a hurry!

No gangs needed. No mangled limbs or loss of life. A few quick pulls on anchor chain gets any door open in a jiffy. The NOLAN saves its low initial cost in first hour of operation.

New safety and efficiency features now make the Nolan One-Man Car Door Opener a more necessary labor-saving money-saving help than ever before.

Many thousands in constant daily use!

Free Literature. Order one or more NOLAN Model-H Car Door Openers now. Catalog on request.

The NOLAN Co.,
118-C Pennsylvania St.
Bowerston, Ohio

\$29⁵⁰

F.O.B. Bowerston

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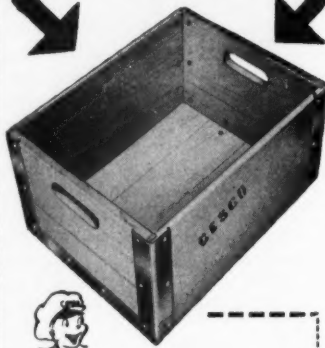


Cesco Tote Boxes

. . . Do Your Job

- EFFICIENTLY
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On Conveyors, Pallets, Hand Trucks, Skid Platforms, or what have you.



- Ruggedly constructed of high grade hardwood lumber
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- Self stacking
- Convenient hand holes for positive grip
- Binding rivets PLUS corner lock style yields maximum rigidity

Depending upon the material packed and the handling method the stack sizes listed below will accommodate loads up to 200 lbs.; possibly greater.

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(Prices Net-F.O.B. Factory)

Lots of	No. 1	No. 2	No. 3
2000	\$1.80	\$2.05	\$2.20
1000-1999	1.82	2.07	2.22
500-999	1.84	2.09	2.24
250-499	1.89	2.14	2.29
100-249	1.94	2.19	2.34

No. 1 size—(I.D.)—14 1/2" x 11 1/4" x 9"
No. 2 size—(I.D.)—18" x 11 1/4" x 9"
No. 3 size—(I.D.)—20" x 11 1/4" x 9"

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Wire Baskets • Tote Trays
Special Pallets



Write today for quotations on special sizes . . . Please submit specifications.

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General Office: 275 10th Ave. New York 17, N.Y.
PHONE: MU 5-4921 • Factory: NORTHAMPTON, MASS.

Circle No. 11 on Reader Service Card
FLOW • APRIL, 1953

... at Standard Pressed Steel Co.

H. Thomas Hallowell Jr., 44-year-old president of SPS, has been designated to receive the



H. T. Hallowell

1952 Achievement Award of the National Metal Trades Association for an outstanding contribution in the field of industrial relations. The award is to be presented at the middle Atlantic assembly of the NMTA in Philadelphia May 6-7. Hallowell is the fourth man to receive the award, according to Russell C. Ball, chairman of the NMTA.

... at B. F. Goodrich Co.

William S. Richardson, vice president, has been elected a director of the company and elevated also to the position of executive vice president, according to John L. Collyer, president and chairman of the board. Richardson has been with Goodrich since 1926. He was elected president of the B. F. Goodrich Chemical Co. upon its organization in 1945 and was named a vice president of the parent company in 1951.

... at Baker-Raulang Co.

R. Thomas Willson, advertising manager, received a watch and plaque in a contest sponsored by the t. f. Club of Cleveland for the best industrial advertising campaign of 1952.

... at Westinghouse Electric Corp.

E. V. Huggins has been elected vice-president of corporate affairs by the board of directors. Besides being named to this newly created post, Huggins was elected president of Westinghouse Radio Stations Inc. Huggins has been

We Started
with the **BEST ENGINES**
and built the industry's
most advanced trucks
around them!

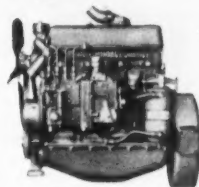


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with power in
Buda Fork Trucks**

We've been building heavy duty industrial type Diesel and gasoline engines for 30 years. Millions of horsepower hours have proven the sound design, superior construction and economical performance of our engines in every type of equipment.

Now—when you select any one of the 14 Buda "FT" series Fork Truck models, you can choose Buda Diesel or gasoline power—the product of Buda—engine builders for our country's leading equipment manufacturers.

See the new Buda "FT" series at your nearby Buda Distributors. Drive them—and you'll agree—they're the industry's most advanced truck. Write for Bulletin 1570 today. The Buda Company, Harvey, Illinois.



4-BD-153
BUDA DIESEL ENGINE



4-B-153
BUDA GASOLINE ENGINE

BH-48

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INDUSTRIAL TRACTORS



CRANE BOYS



FORK LIFT TRUCKS

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In industry after industry XACTO meters have proved the most effective way to measure liquids . . . accurately and dependably. XACTO safely handles 662 different liquids in processing, blending, packaging and many other operations . . . in batching or continuous operation.



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Stacking Pallets Custom Built at Production Line Prices

All materials which are not self-supporting can now be "tiered up" with STAK-MOR Pallets

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NATIONAL MATERIALS HANDLING EXPOSITION

PALLET DEVICES CO.

DIVISION OF EBERHARDT MFG. CO.

ST. LOUIS 10, MO.

Circle No. 55 on Reader Service Card for more information

134

assistant secretary of the Air Force since 1951, when he resigned his vice-presidency of Westinghouse International Co.

. . . at Lamson Corp.

O. W. Acheson has recently been appointed manager of manufacturing for Lamson. He had been general manager of the Allen Billmyre Corp. prior to its purchase by Lamson.

. . . at Reynolds Metals Co.

Wharton L. Donaldson has been named manager of packaging sales in the central region. He has been with the firm since 1946 and has handled label and barrel sales in the eastern divisions.

. . . at Hewitt-Robins Inc.

Harold E. Kleintop has been appointed manager of wire products operations. In his new post he will be responsible for production and sales at the company's Philadelphia plant.



STAK-MOR Pallets In Use At Lee-Rowan Co., St. Louis, Mo.

No matter what type of "problem" materials you want to stack, the job can be done with STAK-MOR Pallets.

Note the accessibility of materials on lower Pallets. If you have a stacking problem, you owe it to yourself to get all the facts on the space and money-saving features of these improved, economical stacking Pallets.

FLOW • APRIL, 1953

FRAGILE PRODUCTS...

(Continued from page 114)

For example, without the fork truck-pallet system, on unloading a carload shipment of single packed tubes, each individual box would have to be picked up and placed on a wooden platform or a hand truck. The stack would then be moved to a storage area by hand and re-packed in the warehouse area, or it would have to be used to move the platform with its load to the storage area. Such an operation would probably involve two men unloading and one man trucking. With the pallet-pack-fork truck system a lift truck operator can go directly into the car, pick up 16 or 24 tubes as a unit and take them directly to the storage area. The man-hours required to unload a car can be reduced by at least 35% through the use of this system.

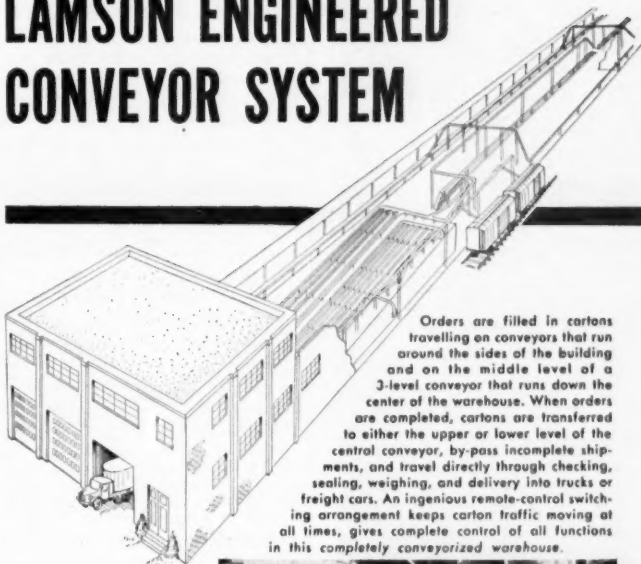
The cost of moving tubes to the assembly lines should show even greater savings. With single boxes, the operator on the assembly line must handle and open each individual box, and then dispose of the box. With this new system, it is only a matter of removing the shoe-box type of cover and six tubes are immediately ready for removal. Now, in place of 24 empty boxes to be disposed of, there are only two containers to remove. Also, they are more convenient for the fork truck operator to handle on his return trips than would be a larger number of smaller boxes.

Since the pallet pack utilizes the idea of nesting tubes, it is more compact. This results in a savings of 15% to 25% in storage space required. For shipping, full carloads or truck loads have been found most economical with this type of packaging. A rail car can hold forty pallets, or a total of 960 tubes. A carload of 21-in. tubes will total about 640 tubes.

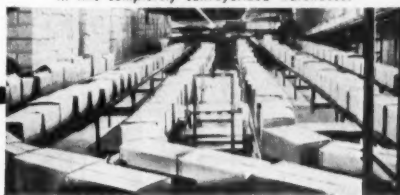
DON'T FORGET—the Reader Service Card that is bound into each issue of FLOW is there to make it easier for you to get complete details about handling equipment that can save you money.

**Endicott Johnson orders
get a clear track with a**

LAMSON ENGINEERED CONVEYOR SYSTEM



Orders are filled in cartons travelling on conveyors that run around the sides of the building and on the middle level of a 3-level conveyor that runs down the center of the warehouse. When orders are completed, cartons are transferred to either the upper or lower level of the central conveyor, by-pass incomplete shipments, and travel directly through checking, sealing, weighing, and delivery into trucks or freight cars. An ingenious remote-control switching arrangement keeps carton traffic moving at all times, gives complete control of all functions in this completely conveyorized warehouse.



Endicott Johnson's new warehouse at Endicott, N. Y. is a prime example of increased efficiency achieved through an engineered conveyor layout. Now all orders for the wide variety of E. J. footwear are processed faster and more smoothly by following an uninterrupted, logical flow from receipt to shipment...all on Lamson Conveyors.

Lamson Engineers, working with Endicott Johnson's engineers, made a thorough study of all warehousing and shipping operations—based their planning on present and projected needs—then designed, built, and installed this all-inclusive system.

For help in solving your material handling problems, no matter how large or small, it will cost you nothing—and may well pay you—to talk it over with a Lamson Engineer. You'll be surprised at how economically you can get full efficiency when you "Let Lamson Move It." Write today for your copy of the *Lamson Roller Gravity Conveyor* catalog. We have a copy for you...just clip this coupon to your signed letterhead and mail.

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Company _____

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Name _____
Title _____
Company _____
Address _____
City _____ State _____

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136

SYNCHRONIZED FLOW

(Continued from page 81)

Parts quality has been improved, due to two factors. First, a greater specialization of labor has been attained, which produces finer workmanship. Second, the parts are conveyed in specially-contoured, padded dollies instead of bare wooden boxes. More parts can be moved in a conveyer and they are properly separated so that damage from jostling is eliminated.

Correcting Defects

Corrections of defective workmanship are handled with dispatch. Because the assembly is set up in a sequence pattern, each employee's contribution is readily apparent to the next person in the chain. In case of an error, it is merely necessary to return the part to the preceding station, instead of perhaps laying it aside until it can retrace its path to a distant and obscure machine. Work flows in a logical stream which is not confusing to personnel. Better planning is possible so that delays and idle time are avoided. Mis-

Cut Drawing Board Time



On Plant Layouts

The CHART-PAK Method utilizes pre-printed tapes for standard plant appurtenances, plasticized cross-section paper for making templates for special equipment and ruled plastic layout sheets. The tapes and template paper are self-adhering and instantly mountable.

The proven advantages of CHART-PAK include:

- **SPEED**—pre-printed patterns are ready to be applied. Changes can be made in seconds.
 - **UNIFORMITY**—Each pattern is always the same.
 - **WIDE RANGE**—Patterns include many types of material conveyors, structural components, center lines, arrows, etc.
 - **ECONOMY**—saves expensive drafting time.
- CHART-PAK also provides prefabricated materials for making organization charts, curve line and columnar charts, and office layouts. Write for free descriptive bulletins.

ATTACH YOUR LETTERHEAD

Please send me full information about the CHART-PAK Method for:

- ☐ Plant Layouts ☐ Organization Charts
☐ Office Layouts ☐ Graphic Charts

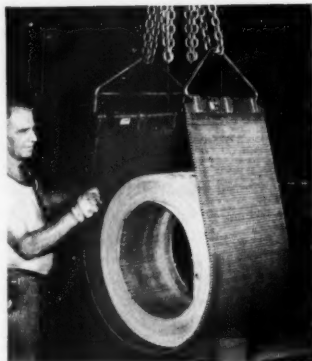
104 B2

CHART-PAK, Inc. 104 E. LINCOLN AVE.,
STAMFORD, CONN.

Circle No. 101 on Reader Service Card

GRIPPER

WOVEN WIRE SLINGS!



TOUGH! You get the benefit of every ounce of sling strength in a basket hitch. Heat treated handles give extra strength. Transverse loop construction won't let sling body snap suddenly!

SAFE! Broad, flat sling body grips tightly around load in a choke hitch. Grips entire load securely, keeps inside members of tubing, rod or bar stock from slipping. Also, no broken wires stick out to cut operator's hands.

EASY TO USE! No kinking, tangling, snarling. Use any sling in either hitch. Use anywhere you have a stationary or portable hoist. Hangs out of the way when not in use.

SEE your industrial supply, materials handling or safety equipment dealer. Or write direct for name of nearest dealer and FREE ILLUSTRATED HANDBOOK.



The Cambridge Wire Cloth Co.

Dept. W • Cambridge 4, Md.



WIRE
CLOTH

METAL
CONVEYOR
BELTS

SPECIAL
METAL
FABRICATIONS

DEALERS! Write for information on territories available

Circle No. 9 on Reader Service Card
FLOW • APRIL, 1953

takes and defective parts are minimized, raising standards of performance.

In many ways, the -59 exhaust parts are unique. They are the largest single-piece components used in aircraft exhaust systems and the first in which both header and collector sections are formed as integral units. A Pratt and Whitney Aircraft design, they require a variety of precise machine operations. To obtain efficient machine groupings, Ryan decided to establish the facilities in four centralized areas, served by tracked conveyor systems.

After the tubular exhaust sections have been formed and seam welded, they are loaded into racks adjoining the first area. Here, they are carefully fitted with hangers and brackets. Roving crews feed the parts from seven jigs which fan into a central welding circle.

In area two, the parts flow through a series of machines which trim, face, burr, sandblast and size them with prescribed exactness. The conveyor lines circle within the machines to provide best access.

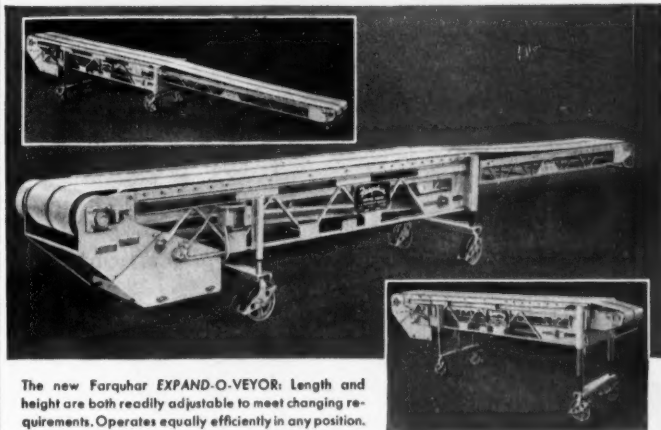
Unique Application

Area three is an interesting pattern of seven steel jigs which are on wheels and tracks converging into a central turn-table, or merry-go-round. Port and outlet flanges are located and the jigs are rolled onto the turn-table. It is rotated so that an overhead, twin-gun machine can spot weld each flange in place. Conveyor track circle outside so that the jigs can be rolled to the turn-table.

From area three, the parts go to seam welding machines where the flanges are permanently welded on. Thence, they are taken to area four where they receive another series of machine operations. These involve a submerged pressure test, installation of hanger bushings and reaming of bushings and brackets. Special finned joint seats are attached to support an ingenious capsule-type joint which isolates the exhaust system from engine vibration and provides thermal expansion accommodation. After final alignment and inspection, the completed parts are placed in mobile racks and sent to the shipping department.

Where can you use this new FARQUHAR *EXPAND-O-VEYOR*?

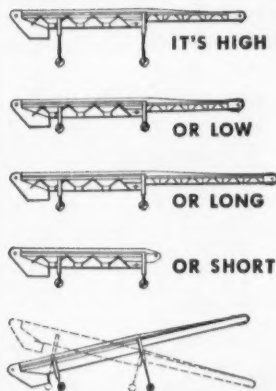
Completely adjustable in height and length!



The new Farquhar *EXPAND-O-VEYOR*: Length and height are both readily adjustable to meet changing requirements. Operates equally efficiently in any position.

HERE's the new Farquhar *Expand-O-Veyor*—literally, the "conveyor with the two-way stretch." Use it at its maximum length and height settings one day; move it to another part of your plant and use it at minimum settings the next day. Or, operate it at any combination of height and length positions you desire. Use it in loading and unloading trucks—keep one end fixed and shorten or lengthen the other as your truck becomes full or empty. The versatility of the new Farquhar *Expand-O-Veyor* makes it suitable for a wide variety of material handling problems—especially where space and working requirements change often.

For more information about this and other Farquhar portable, semi-permanent, and permanent power driven or gravity conveyors, write our engineering department, stating your problems. We'll be glad to consult with you . . . at no obligation, of course.



**POWER-BELT
AND
GRAVITY
CONVEYORS**

FREE! "Owners Report"—booklet of case histories showing typical money-saving conveyor installations.

MAIL COUPON FOR YOUR COPY

**THE OLIVER CORPORATION
A. S. FARQUHAR DIVISION
Conveyor Dept. A-06, York, Pa.**

Gentlemen:
Please send me my free copy of "Owners Report."

Name

Firm

Address

City Zone State

**HERE'S
WHY**

DICO WAS FIRST TO OFFER GUARANTEED HAND TRUCKS!

• . . . **yes FIRST!** Indestructible heavy steel plate, boxed side shafts made it possible for us to guarantee DICO hand trucks. DICO hand trucks are **FIRST in DESIGN . . . QUALITY . . . EFFICIENCY!** They are built to out-perform and outlast any hand trucks in the field.

**DICO
COMPANY**

WRITE FOR CATALOG—There's a DICO Hand Truck to fit your particular trucking problem. See your jobber or write.

204 S.W. 16th ST., DES MOINES, IOWA

MODEL 80
Extra Heavy Duty
Railroad Freight
Truck

GOOD PLANNING

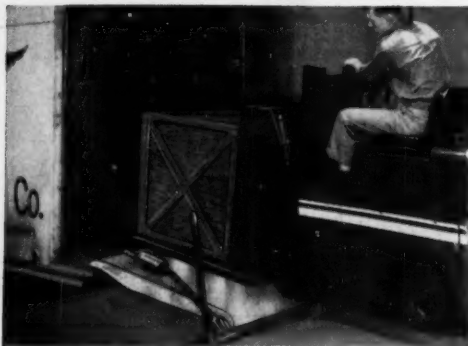
(Continued from page 68)

dispatched to the customer. Any one type of scrap is processed in only one way, (sheared, cut, baled, etc.), so that it is never necessary to transfer scrap to more than one operational area.

Every Detail Carefully Pre-planned

The number of railroad tracks within the yard and the distance between these tracks was also minutely planned. In many yards, locomotive cranes can operate only on the tracks also occupied by the rail cars. This means that a crane with a 55-ft. boom cannot completely empty a car, since the car too will probably be 55 ft. in length.

Double pairs of tracks, as used at Columbia Iron & Metal Co. solve this problem. The rail cars are located on the outside set of tracks, away from the storage and processing area to which the scrap must be transferred. Thus, the cranes can easily travel back and forth, working from all cars in the



STOP COSTLY HAND LOADING

RITE-HITE Adjustable Loading Docks speed up the flow of material in and out of your plant. Fork or lift trucks move directly from the plant into the carrier, handle material only **ONCE**. You get increased dock capacity, safety, and efficiency, when you specify **RITE-HITE**.

RITE-HITE requires

- ✓ No costly machinery
- ✓ No lubrication
- ✓ No fluid or electrical controls
- Write for literature

LOOMIS MACHINE CO.
RITE-HITE DIVISION

Dept. 16 • CLARE, MICHIGAN

Circle No. 131 on Reader Service Card for more information
138

Save time! Prevent accidents!

LIFT AND DUMP MECHANICALLY

**BAGS
BARRELS
DRUMS
BOXES**

REDUCE HANDLING COSTS with a Cesco Dumper. It handles up to 100 loads per hour, has a lifting cap. ranging from 100 to 1500 lbs. Both single- and multi-purpose portable models are built in standard dumping heights from 5 to 12 ft. Stationary models up to 16 ft. dumping heights. Push button controlled. Write for catalog.

ESSEX CONVEYOR, INC.
101 Golden Street • Newark, New Jersey
COLSON EQUIPMENT & SUPPLY CO.
1317 Willow Street • Los Angeles 13, California



WRITE
FOR
CATALOG

CESCO SKIP HOIST DUMPER

Circle No. 13 on Reader Service Card for more information
FLOW • APRIL, 1953

line and emptying them completely.

Each set of tracks is 90 ft. apart to give maximum area for processing. The 55 ft. booms of the cranes reach more than half-way across the area from their position on the inside track. Cranes located on each side of the processing area are therefore able to cover the entire area easily.

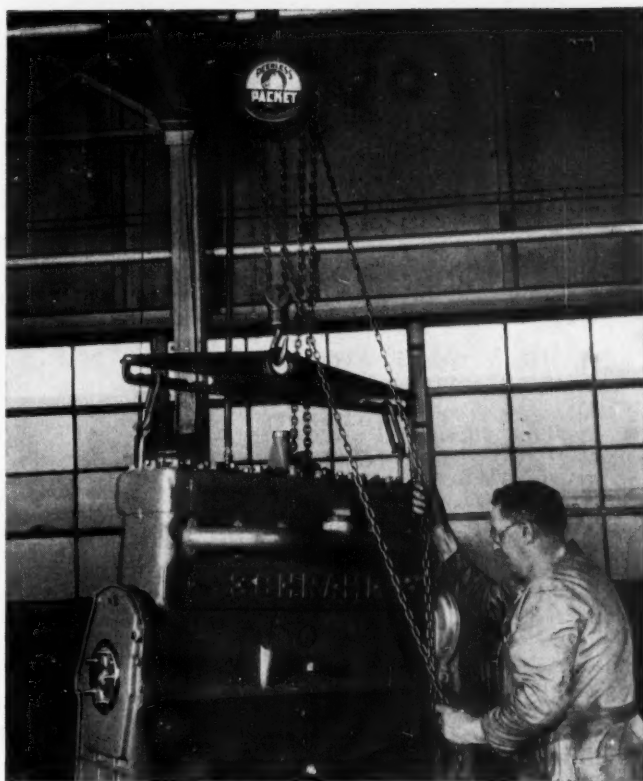
Scrap cutting operations are designed so that men move from north to south through their area. As work is completed, it is picked up by a crane and new material can be laid down immediately. In this way, men are never working in an area where scrap is being placed or removed—an important safety factor. Likewise, processing is not interrupted.

Shears are arranged in groups of two with one having a right hand feed, and the other a left hand feed. Scrap is fed to each shear in a group from the outside where it has been laid down by the crane, is cut, then is fed to a central take-away area between the shears. Danger to operators is thus eliminated, and there is no lost time.

Here's a Typical Operation

In a typical operation, a car arrives (the bulk of incoming unprepared scrap arrives by this method), is inspected and weighed. Then it is sent to the proper area and unloaded. The car is taken back to the scale and weighed empty to double-check net weight. If the car has dirt in it, it is cleaned out; then the car is returned to duty at some other point in the yard where it is loaded with prepared scrap. Finally, it is inspected, weighed gross and dispatched to railroad tracks for shipment.

The entire handling operation proceeds on a direct and orderly basis. Because so much of the activity in the yard consists of handling alone, it was considered a must, during planning stages, to organize both layout and handling with an eye towards maximum effectiveness. The result has been an effortless operation which utilizes both working and storage area to best advantage, eliminates time-consuming and dangerous manual handling, and greatly increases production.



Check these PACKET features before buying a hand chain hoist



Sturdy steel construction. Drop-forged, heat treated steel hooks; pressed steel housings; precision cut, heat treated alloy steel gears; heavy gauge pressed steel hand wheel; electrically welded, oval link, heat treated, high carbon steel load chain. Enclosed design to withstand rough handling and keep out dirt.

Highly efficient operation. Rotating parts are mounted on pre-lubricated, shielded ball bearings which have long life, require no maintenance. These bearings, plus simplified gearing and improved friction mechanism, assure extremely smooth operation.

You'll find that these low cost, lightweight, spur geared hoists are easily carried from place to place; can lift capacity loads smoothly and safely. All Peerless Packet Hoists are fully tested, under actual operating conditions, after final assembly. Look in your classified telephone directory under "Hoists" for the name of your nearest Harrington distributor, or write for Bulletin P-5.

HARRINGTON PEERLESS HOISTS

THE HARRINGTON COMPANY, 1638 W. Callowhill St., Phila. 30, Pa. • Since 1876

Circle No. 32 on Reader Service Card for more information

What's

NEW in useful FREE literature

The publications featured on these pages were written by experts. They are FREE publications. To obtain them use the postcard bound into this issue.

Electric Fork Trucks:

A four-page data folder from Wright-Hibbard Industrial Electric Truck Company, Inc., describes this company's line of electric fork trucks. General specifications are included for nine models, with capacities of 2000, 3000 and 4000 pounds. Ten outstanding features cited by the company are listed.

Circle 227 on Reader Service Card for more information

Hour Meters:

Catalog 569 from John W. Hobbs Corporation illustrates and describes the complete line of Hobbs hour meters and accessories. Also included is helpful information regarding uses and installation, as well as a listing of this company's improved pressure switch.

Circle 228 on Reader Service Card for more information

Floor Maintenance:

Multi-Clean Products, Inc., has published a 44-page illustrated handbook entitled "Your Floors and How To Maintain Them". It presents comprehensive descriptions of various types of floors and gives correct procedures for cleaning each of them.

Circle 229 on Reader Service Card for more information

Industrial Truck Line:

A 12-page manual, illustrating and describing its entire line of platform and fork trucks and floor cranes is available from the Elwell-Parker Electric Company. The manual details the various components which make up the various trucks.

Circle 230 on Reader Service Card for more information

Time-Cutting Conveyor:

The Gifford-Wood Company offers a reprint of an article telling how a recently-installed interfloor conveyor system cuts receiving-to-storage time by 66 percent in a plant. The article tells how the conveyor sys-

tem eliminates a 140-foot fork truck haul, stops elevator congestion and speeds the unloading of highway trucks.

Circle 231 on Reader Service Card for more information

Diesel Engines:

An informative booklet on diesels written in simple, non-technical language, has been published by the P&H Diesel Division, Harnischfeger Corporation. Entitled "What You Should Know About Diesel Engines", it calls upon the grade school "primer" technique for telling and illustrating the diesel story.

Circle 232 on Reader Service Card for more information

Partitioned Pallets:

Hammerslag Equipment Company has prepared a folder describing its HECO partitioned pallets and spacers. Entitled "Prevent Weight Compression Damage in Your Storage and Loading Operations", the folder points up the advantages of these all-wood collapsible pallet spacers which are designed to support the load.

Circle 233 on Reader Service Card for more information

Cotton Conveyor Belting:

A revised folder containing the latest prices on its cotton conveyor belting has been prepared by Buffalo Weaving & Belting Company. Also included are descriptions of the various types available, features provided for most conveyor operations and facts that answer the most-frequently asked questions about solid woven cotton belts.

Circle 234 on Reader Service Card for more information

Unitized Conveyors:

Standard stock belt conveyor units for easy, complete assembly in various combinations to meet individual requirements are described in an illustrated folder by Conveyor Specialty Company, Inc. Specifications also are included on these conveyors, designated by the manufacturer as Series "L".

Circle 235 on Reader Service Card for more information

Belt Conveyor:

A 4-page illustrated bulletin detailing applications and specifications of the Rapistan Floor-Veyor belt conveyor has been issued by The Rapids-Standard Company, Inc. The two-color folder has photos and descriptions of typical uses and features of the belt unit, which is used to move goods from floor to floor or horizontally in many types of industry.

Circle 236 on Reader Service Card

Portable Elevator:

Bulletin 104 from Langley Manufacturing Company lists construction features and specifications on the Langley Powlift, a portable electric or hand-operated machine used for vertical lifting, elevating, poitioning, stacking and piling of loads placed on its carriage. Drawings and photos of this portable elevator are included.

Circle 237 on Reader Service Card

Ball Bearings:

Nice Ball Bearing Company announces the availability of Catalog 150 to product designers and others who specify or purchase ball bearings for new equipment or replacement. Listings cover standard radial, thrust and combined radial-thrust bearings of both precision and unground types.

Circle 238 on Reader Service Card

Conveyors and Tubes:

Bulletin No. 68 from Standard Conveyor Company shows Standard Conveyor installations and pneumatic tube systems in munition plants, steel and brass mills, foundries, airplane plants, automobile factories and machine shops. Descriptions of the various types of systems are included.

Circle 239 on Reader Service Card

Sling Handbook:

A 64-page handbook on Leschen slings and fittings is available from the A. Leschen & Sons Rope Company. It is printed in a handy size for convenient reference on the job or in plant offices. It con-

tains more than 100 illustrations, showing standard wire rope slings, grommet slings and multiple part slings. Charts show correct calculations for determining the size of slings required, and correct sling angles in relation to loads.

Circle 240 on Reader Service Card

Detachable Chain:

A bulletin on Rex steel detachable chain has been published by Chain Belt Company. It explains

the step-by-step manufacture of the chain, and plain chain and attachments are illustrated and described. Included are tables giving dimensions, weight, prices, strengths, lengths, etc.

Circle 241 on Reader Service Card

Power Cranes, Shovels:

A series of eight articles discussing the use and application of power cranes and shovels has been compiled by the Koehring Com-

BOOST PRODUCTIVE MAN HOURS... CUT HANDLING COSTS

with



SAVE TIME . . . LABOR . . .
DOLLARS IN HANDLING

Make every man hour count in your plant . . . cut down slowdowns in materials handling with Wayne Lifts. From loading platform to production line there's a Wayne Lift to save you time, labor and money. Every one is "precision-engineered" . . . made to last for years without trouble . . . designed for easy servicing.

Wayne Engineers, utilizing "LIFTronics", offer a complete engineering service to establish the most efficient and practical solution to your lift problems. Each Wayne Lift—loading dock, cross-over bridge, materials lift, service lift—is custom-engineered to your plant's particular needs. Take the first step to improving your materials handling, write for "LIFTronics . . . science of materials handling."

THE WAYNE PUMP COMPANY

Salisbury, Maryland • Toronto, Canada



WAYNE LIFT DIVISION, Ironton, Ohio

Circle No. 75 on Reader Service Card for more information

Circle No. 151 on Reader Service Card

TOUGH AS AN



ELEPHANT

AND TWICE AS USEFUL



The Fab-Weld Stacking Pallet permits tier-stacking of units any size. It can be designed to meet your particular needs. Write our Materials Handling Division for full details.

Visit our Exhibit, Booths 1505-1548,
MATERIALS HANDLING SHOW, Phila.
May 18th to 22nd

FAB-WELD
CORPORATION

3656 Richmond Street
Philadelphia 34, Pa.

pany. The 32-page booklet contains a detailed discussion on the basic principles of power shovel and crane operation. The details involved in making a proper selection of this equipment for ordinary operating situations are discussed.

Circle 242 on Reader Service Card

Industrial Elevators:

Bulletin 5211 from Barrett-Cravens Company presents the complete line of Barrett industrial elevators and portable cranes. In this 36-page bulletin, portable elevators are shown in hand and electrically-operated types, and with single, hinged and telescopic uprights.

Circle 243 on Reader Service Card

Dealer Catalog:

The Modern Equipment Company has published a general catalog for distribution to dealers. Products manufactured by the company include hand trucks, floor trucks, beverage and barrel trucks and appliance trucks.

Circle 244 on Reader Service Card

Circle No. 8 on Reader Service Card

HOUNDS FOR PUNISHMENT!



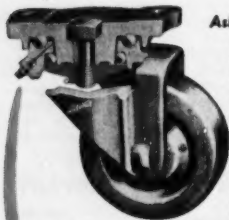
BULLDOG PALLETS

We can deliver Bulldog Pallets almost anywhere in the U.S. at competitive prices. For convincing proof, write or wire us for a quotation stating quantity, specifications and desired delivery date.

BULLDOG PALLET CO.

PALLETS • PALLET BINS • HALEY ROAD
EXPENDABLE PALLETS • P.O. BOX 547
PALLET SHOOKS • NEWARK,
PACKING CRATES • CALIFORNIA

This **Bond** 36-A Caster
is Your Best Buy
for DEPENDABLE SERVICE



C-136-A Series—Double
Ball Race Swivel Center
equipped with Roller Bearing
Colson Wheels.

Ask your industrial distributor...

he knows that Bond 36-A Series Casters fit most service requirements. These universally used, completely dependable casters incorporate a fork, base and king bolt construction that distributes the load evenly. Two ball races of almost equal diameter, set one below the other, permit easy swiveling. All moving parts in the ball race are pressure lubricated.

Remember, your best buy is Bond—and your distributor will be glad to help you select the right Bond casters for your job. Ask your distributor for a copy of the Bond Catalog K-38 or write direct.

**BOND FOUNDRY
& MACHINE CO.**
Meham, Penna.

Visit our booth
No. 805
at the
Materials Handling
Exposition,
May 18-22, Philadelphia.

Keep things MOVING..



ISC CONVEYORS

Lightweight
Low Cost

Heavy Duty
High Production

ISC OVERHEAD MONORAIL CONVEYORS are proving their versatility, flexibility and dependability year in and year out in thousands of integrated production applications.

Low initial cost plus surprising operational economies constitute substantial savings... a challenge to good management you can't afford to ignore. Your request will bring important details.

Address Dept. F-4

**INDUSTRIAL SYSTEMS
COMPANY**

New Brunswick New Jersey



Circle No. 6 on Reader Service Card for more information
142

Circle No. 33 on Reader Service Card for more information
FLOW • APRIL, 1953

Wire Mesh Belts:

The Cambridge Wire Cloth Company has issued a revised catalog for its wire mesh conveyor belts. The catalog gives data on uses for wire mesh belts, including photos and flow sheets, selection of belt specifications conveyor design belt drive mechanisms and metallurgical tabular data.

Circle 245 on Reader Service Card

Pneumatic Tubes:

Lamson Corporation has issued a colorful 50-page booklet titled "On Target". This booklet pictures and describes many uses for Lamson Airtube systems in industry and commercial enterprise. A technical data section giving full details on the component parts of the system is included.

Circle 246 on Reader Service Card

Power Transmissions:

Half a century of steady development and growth in the field of power transmission is described in the golden anniversary publication of its house magazine, "Transmission Topics", by the Fuller Manufacturing Company.

Circle 247 on Reader Service Card

Speed Reducers:

"Cleveland—At Work" is a booklet from The Cleveland Worm & Gear Company which contains a number of "on-the-job" studies illustrating the company's worm gear speed reducers in steel mills, pharmaceutical plants and refineries.

Circle 248 on Reader Service Card

Compact Pump:

Construction features of Allis-Chalmers supporting-adaptor type, close-coupled purpose pump in capacities to 2500 gpm at heads to 550 feet are described and shown in a bulletin from Allis-Chalmers Manufacturing Company.

Circle 249 on Reader Service Card

Hydraulic Hoists:

A series of 15 technical data bulletins describing the complete line of Galion hydraulic hoists is

being issued by The Galion All-steel Body Company. Each bulletin includes full specifications for one individual hoist. Among the data listed is: hoist type, weight, stroke, cylinder diameter, mounting height, dump angle and piston rod diameter.

Circle 250 on Reader Service Card

Semi-Steel Wheels:

Bulletin No. E-45 from Phillips Mine & Mill Supply Company contains descriptive material and

size data on a line of semi-steel industrial wheels, ranging in capacities from 230 to 1140 pounds. These wheels are available as replacement parts as new equipment for other manufacturers' products, and also as standard equipment on all Phillips material handling equipment.

Circle 251 on Reader Service Card

Floor Coating:

An illustrated folder containing complete information on proper



financing

**...FOR THE
MATERIALS
HANDLING
INDUSTRY**

IN the materials handling industry, as in all growth enterprises, capital is a vital ingredient for expansion. To be successful, financing for the materials handling industry requires a special knowledge of the particular problems faced in this field.

We have this knowledge as the result of long experience in financing of this type and a continuing interest in companies engaged in the Materials Handling industry.

As a means of raising additional capital, your firm may be interested in either equity or debt financing. If your company is privately owned, perhaps you may wish to sell part of your holdings to the public. We will welcome your inquiry in either case.

Our partners will be happy to discuss your financing plans with you. For a confidential meeting please telephone or write to Mr. Eugene P. Barry.

SHIELDS & COMPANY

Members New York Stock Exchange

44 WALL STREET • NEW YORK 5, N. Y.

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move materials best the **B-G** way

- PERMANENT CONVEYORS
- PORTABLE CONVEYORS
- BUCKET LOADERS

see your B-G distributor
or write

Barber-Greene
AURORA, ILLINOIS, U. S. A.

procedures for preparing and painting concrete floors with paints containing Pliolite S-5 has been published by Goodyear Tire & Rubber Company's chemical division.

Circle 252 on Reader Service Card

Heat Treating Baskets:

Catalog No. B-8 from Rolock Inc. describes this company's baskets, trays and boxes used in heat treating operations. Also listed are the acid and heat resistant metals and alloys from which these carriers are built, as well as required data for ordering.

Circle 253 on Reader Service Card

Couplings and Converters:

To help both the user and manufacturer of powered equipment to better understand the application of hydraulic couplings and torque converters, Twin Disc Clutch Company has released a 32-page special issue of "Production Road" entitled "Coupling or Converter?"

Circle 254 on Reader Service Card

Circle No. 46 on Reader Service Card

MERRILL MATERIALS HANDLING DEVICES

LIFTING CLAMP **TWIN LIFTER**

HAND GRIP

DRUM FILTER

DRAG CLAMP

DRUM OPENER

MERRILL BROTHERS
56-35 ARNOLD AVE., MASPETH, N. Y.

ECONOMICAL WAY TO CUT YOUR SWEEPING COSTS

FITS ALL FORK TRUCKS

YARD BIRD FORK TRUCK SWEEPER

- From handling materials to sweeping in 5 minutes.
- One man replaces sweeping crew . . . does faster, more thorough job.
- Clears away snow, dust, debris . . . up to 100,000 sq. ft. per hr.
- Costs far less than conventional units.
- Sprinkles while it sweeps.
- Side brush optional.

Hundreds in successful use by Railways, Factories, Foundries, Docks, Warehouses, Airports, etc.

Floating dust pan quickly, easily emptied into any height receptacle . . . no rehanging.

No other sweeper can do this!

LITTLE GIANT PRODUCTS, Inc. 1826 North Adams St. PRORIA, ILLINOIS

Circle No. 159 on Reader Service Card for more information

SIMPLIFY INDUSTRIAL MAINTENANCE, SPEED BULK MATERIAL HANDLING **SCOOT-CRETE** BUILT FOR THE TOUGH JOBS!



Scoot-Crete's heavy-duty, truck transmission stands up under the worst operating conditions; delivers maximum horsepower from the Wisconsin AEN air-cooled engine to the heavy-duty, high-traction 7:50x10, 6-ply U. S. Royal tires. Scoot-Crete scoots 3,000 lb. loads up 25% grades, in plants and at construction sites, has caster steering—turns in its own 90" over-all length. Dump box body interchangeable with flat rack in a few minutes. Speeds, 1 to 15 mph. 14, 16, 20 cu. ft. capacities. Today, write for specifications and performance facts.

GETMAN BROTHERS MANUFACTURING DIVISION
SOUTH HAVEN, MICHIGAN

Circle No. 26 on Reader Service Card for more information
FLOW • APRIL, 1953

Metal Fabrication:

A sheet and plate fabrication brochure has been issued by The Kirk & Blum Manufacturing Company. It contains more than 40 pages of illustrations of the Kirk & Blum fabricating plant and manufacturing facilities. The booklet also gives a comprehensive view of the typical parts and products the firm manufactures.

Circle 255 on Reader Service Card

Hydraulic Lifts:

Big Joe Manufacturing Company offers a 4-page bulletin on its battery operated and manually operated hydraulic lifts. These lifts are designed for one man use on the job that's too big to do well by hand and too small to justify the use of large equipment. Dimensions and specifications are included.

Circle 256 on Reader Service Card

"Last Frontier":

Your last frontier for a profitable margin, according to Arrow Products Inc., is the material handling aspect of production. In a 6-page broadside, the company describes some of the material handling equipment it manufactures, including conveyors, hand trucks and wheels.

Circle 257 on Reader Service Card

Diversified Equipment:

Whiting Corporation offers a presentation of its diversified equipment and services to major industries in a 16-page handbook titled "Whiting Products Serve All Industry". Major Whiting divisions include material handling, aviation, Swenson chemical processing, transportation equipment and engineering and metal-working machinery.

Circle 258 on Reader Service Card

Helical Gear Drives:

Helical gear drives, their advantages, fields of application and correct selection are discussed in an illustrated 16-page book, No. 2451, released by Link-Belt Company. Full-page cross-sectional

views show in detail the design and construction features of both the double and triple reduction types.

Circle 259 on Reader Service Card

Bag, Box Handler:

The Belt Versaveyor, a portable belt conveyor for handling bags and boxes, is described in a bulletin from The Belt Corporation. Specifications are given as well as descriptions of optional equipment, such as basic unit accesso-

ries, feed end accessories and discharge end accessories.

Circle 260 on Reader Service Card

Floor Striper:

A bulletin from S. B. Beugler describes the Mark-A-Zone, a striper which is said to paint up to 1500 feet of standard 3¾ inch stripe per hour on short lines. It uses lacquer that dries hard in 20 minutes, or any other type of standard or special paint.

Circle 255 on Reader Service Card

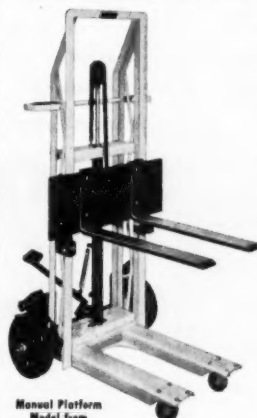
A COMMON PROBLEM:

*How Best to Handle
"In-Between" Loads?*

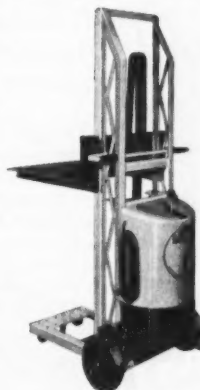
See us at Packaging Show, Booth 812,
Chicago, April 28-29; also at The
National Materials Handling Exposition,
Booth 1434, May 18-22.

Every business has them: Loads too heavy for safe hand lifting, yet not large enough to justify the use of big, expensive equipment. Loads that vary in size and shape, that move on no fixed route, and that must be handled at many height levels.

A Happy Solution Use **BIG JOE** Hydraulic Lifts



Manual Platform
Model from
\$236.50



Battery Operated
Fork Model from
\$587.50

Their platforms or
forks are always
at loading level.

Lifting is done by
a powerful hydraulic
unit.

They move or turn
easily on large
wheels and casters.

They stand rigid
with brakes locked.

They are engineered
for years of
service.



Manually Operated Units—Capacity 750 lbs.,
Lifting Heights to 58"

Battery Operated Units—Capacity 1000 lbs.,
Lifting Heights to 80"

Write for Specifications on All Models

BIG JOE MANUFACTURING COMPANY

900-08 W. JACKSON BLVD., CHICAGO 7, ILLINOIS

Cable Address: BIG JOE Distributors in Principal Cities



Circle No. 95 on Reader Service Card for more information

Honeyman HAND TRUCKS



Model P—one of six work-proved trucks.

**STRONG
but
LIGHT**

You carry more payload and less dead weight with Honeyman aluminum hand trucks. Truck shown here has a rated capacity of 500 pounds, yet weighs only 18½ pounds and is strong enough to stand up under years of heavy work. It is made with framing of shock-resistant, twist-proof alloy aluminum tubing. Sturdy cast aluminum wheels have rubber tires to give quiet, smooth, floor-saving operation. Parts are replaceable on the job with ordinary tools, without welding. Stair climber models lift loads easily up steps and curbs, no jolting, back-breaking lifts.

For further information see your dealer or write.

DEALERSHIPS
OPEN IN MANY
LOCALITIES

**Honeyman
MFG. CO.**

3927 S. W. Macadam, Portland 1, Ore.

Outdoor Fork Truck:

Tracto-Lift Company offers an 8-page bulletin on its fork truck, which is said to combine the traction of an industrial tractor with the lifting and stacking ability of the fork truck. It is profusely illustrated, and includes specifications and attachments available.

Write in 262 on Reader Service Card

Pallet Truck:

An unusual pallet truck is described in a brochure from Anthony Truck Company. The truck is tilted up on the nose-plate wheels for running under and out beneath the pallets, and a pull on the two handles tilts and aligns the load into position for handling.

Write in 263 on Reader Service Card

Want Better Lighting?

Does poor lighting hinder your material handling operations? You can get complete information on how to improve lighting.

Write in 264 on Reader Service Card

See the new
GRAND
SHOP CADDY

and

GRAND
LIFT STACKER

Featuring the
Sensational

VARI-LIFT
4-SPEED HYDRAULIC
SYSTEM

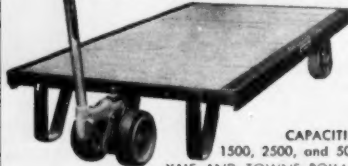
AT THE PHILADELPHIA
MATERIALS HANDLING
SHOW

BOOTH 101 and 114

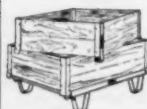
ROLLAWAY SEMI-LIVE SKIDS AND JACKS

FEATURING THE **RE-NU TOP**

Steelbound Rollaway Skids combine the best features of bolted and welded designs. The frame supporting members are arc-welded, and the renewable hardwood deck is tightly clamped with steel bolts of extra tensile strength. Welded-in, heat-treated, steel connecting pin. Semi-steel rubber-tired or Flor-Savr wheels with Myatt roller-bearings, heat-treated steel axles.



CAPACITIES:
1500, 2500, and 5000 POUNDS
YALE AND TOWNE ROLLAWAY JACKS
are stocked at the Lanham Company's plant
and are sold and shipped directly from
Louisville for use with ROLLAWAY SKIDS.



SECTIONAL BINS



RE-NU TOP
SKID PLATFORMS



SKID BOXES

**THE LANHAM
COMPANY**

1401 S. 12th St., Louisville, Kentucky

from
receiving
to shipping



**BUSCHMAN
CONVEYORS**

serve **Admiral's** refrigerator plant

- Six Apron Conveyors—door and cabinet assembly.
- Two Belt Conveyors—receiving dock to mezzanine storage.
- Elevator Conveyor—from R R cars to storage.
- Belt Conveyor—from assembly to shipping.
- Junction and Down-End Conveyor.
- Up-End and Shipping Room Conveyor.

More refrigerators . . . at lower cost . . . is the overall aim achieved with BUSCHMAN Conveyors at Admiral's Midwest Subsidiary plant. In this plant, as in hundreds of others in every branch of manufacturing BUSCHMAN Engineers have designed time, money and space saving equipment for the handling of materials from receiving through process, assembly and finishing to storage and shipping.

PRODUCE MORE . . . FOR LESS
Buschman
Conveyors

Write for Bulletin No. 60

THE E. W. BUSCHMAN CO.

4450 Clifton Avenue
Cincinnati 32, Ohio

Representatives in principal cities

ASSOCIATIONS . . .

(Continued from page 14)

• A conveyor Institute will be conducted by the University of Illinois department of Mechanical Engineering in cooperation



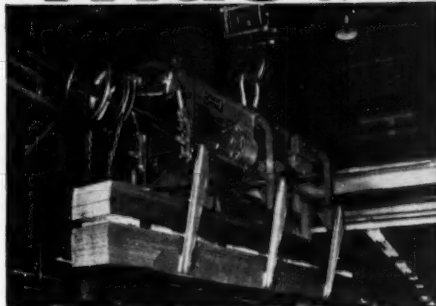
with the Conveyor Equipment Manufacturers Association, April 14 through 16 in the Illini Union building at Urbana, Illinois. According to Prof. N. A. Parker, head of the department of Mechanical Engineering, engineers representing both manufacturers and users will participate as panel members. Purpose of the institute is to acquaint conveyor users with the latest engineering developments in the field and practical methods of solving conveyor problems.

• R. F. Miles, president of Rathbone Hair and Ridgway Box Co., was elected president of the National Wooden Box Association during its 54th annual meeting recently held in St. Louis. Officers reelected were John Galbraith, Philadelphia, treasurer; C. D. Hudson, Washington, D. C., executive vice president. Three vice presidents elected to serve during 1953 are Curt F. Setzer, Sacramento, Calif.; Leslie J. Chaffee, Oxford, Mass.; and J. D. Bronson, Yakima, Wash.

• The recently organized Boston Chapter of the Society of Industrial Packaging and Materials Handling Engineers, the 15th chapter in the nationwide SIPMHE organization, formally installed its first set of officers and directors March 3. Alvin S. Roberts, Philadelphia, national vice president of SIPMHE, was the installing officer.

Circle No. 105 on Reader Service Card for more information

Wide or Narrow...



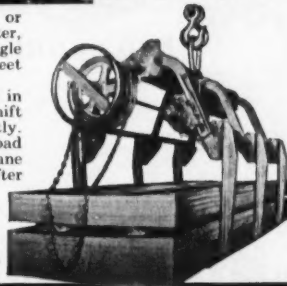
**1 C-F
LIFTER
HANDLES
THEM ALL**

Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.

Adjustments are made by the operator in a few seconds, permitting the Lifter to shift from wide to narrow sizes almost instantly.

Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other method, a C-F Lifter will soon pay for itself.

Bulletin SL-28 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There's no obligation.



CULLEN-FRIESTEDT CO.

1320 South Kilbourn Avenue • Chicago 23, Illinois

..... Perfect Balance!



STERLING D3 1/2 W
(above) Sturdy wood-handle barrow for dry materials. 3 1/2 cu. ft. capacity.

STERLING CSW
(right) Ideal for concrete, mortar, etc. 5 cu. ft. capacity.

Sterling Wheelbarrows move quickly and easily because of their perfectly balanced construction. Actually 80% of the load is on the wheel . . . only 20% on the operator. That certainly lightens the load for fast, easy wheeling.

Wood handles are longer, formed to fit the operator's hands. Steel channel legs and reinforcements are designed for maximum leg clearance. Write for new Wheelbarrow Catalog No. 63A.



**DEALERS NEEDED —
WRITE FOR DETAILS.**

STERLING WHEELBARROW CO., Milwaukee 14, Wis.

**Sterling
WHEELBARROWS**



Look for this Mark of
STERLING Quality

A 5750-55-R2

Circle No. 66 on Reader Service Card for more information

Circle No. 48 on Reader Service Card

Built to Take It

**MILWAUKEE
HAND
TRUCKS
10 MODELS**

**Priced Right
For You!**

STRONG

AND RUGGED!

Arc welded tubular steel frames, the best wheels obtainable, 3 Handle Styles, Open or Closed Nose Plates, 10 Standard Models . . . there's a Milwaukee Hand Truck to fit your needs with full assurance of long service life at low cost.

Buy 'em Anywhere—Milwaukee Hand Trucks are sold by Office Supply, Materials Handling, Janitor Supply, Wholesale Hardware and Industrial Supply Distributors.

Distributors Wanted—on non-exclusive basis. Many territories wide open for a good hand truck line. Write —

MILWAUKEE
Truck and Caster Corp.

6314 W. River Parkway • Milwaukee 13, Wis.

The officers of the new chapter include Francis Shaughnessy, president; John J. Reynolds Jr., vice president; Vincent McCann, secretary and Max Hill, treasurer.

• The Cleveland Chapter of the American Material Handling Society will have Jervis C. Webb, president of the Jervis B. Webb Co., as its speaker April 23. The regular monthly meeting will be conducted in the auditorium of the Cleveland Engineering Society Building. Webb's address will be entitled, "Assembly On The Move."

• More than 150 executives and engineers from industry watched Irving Footlik, Stone Container Corp., as he demonstrated models of the latest materials handling equipment at the recent midwest materials handling workshop. The full-day session was sponsored jointly by the Chicago Chapter of the American Material Han-

Circle No. 16 on Reader Service Card

Trojan TRACTOR FOR POWER TRAVEL

and
walk
along
with
the load



Write for Bulletin 810.

With a simple, draw-bar attachment, the Trojan quickly converts slow, hand-travelled hoists, small cranes, and other material handling units to fast, power-travel. Save time and effort; speed up production.

DETROIT HOIST & MACHINE CO.

48th Year—Designers & Manufacturers
Hoists and Cranes Since 1905

8239 Marrow St., Detroit 11, Mich.

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM RATIO COUNTING SCALE

Another Detecto-Gram Scale to speed counting operations. Model #1743 has a special counting tray attached to the beam for use when counting in odd amounts.

Write for Catalogue



DETECTO • SCALES • INC.

MAKERS OF FINE SCALES SINCE 1900

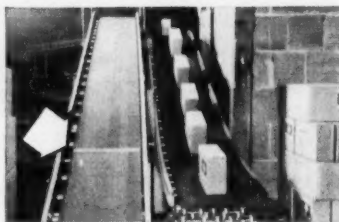
543 W. PARK AVENUE • BROOKLYN 5, NEW YORK

SCALE ENGINEERS IN ALL PRINCIPAL CITIES

Circle No. 15 on Reader Service Card for more information
148

ALLIGATOR

CONVEYOR BELT LACING



Every
Tooth
A Vise*

**in Long Continuous Lengths
for Conveyor Belts**

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Stainless or Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and any width.

Order from Your Supply House. Ask for Bulletin A-60.
FLEXIBLE STEEL LACING CO. 4702 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

Circle No. 113 on Reader Service Card for more information
FLOW • APRIL, 1953

Circle No. 88 on Reader Service Card

RAZORBACK PALLETS

Nailed Pallets . . . Bolted Pallets . . . Shipping Panels . . . Refrigerator Racks . . . Collapsible Boxes . . . made to your own specifications and to meet your particular requirements. You always get **QUALITY and SERVICE** when you buy Razorback! Write us for prices!

Arkansas Pallet Co.

P. O. Box 794-A Phone 6474
PINE BLUFF, ARKANSAS



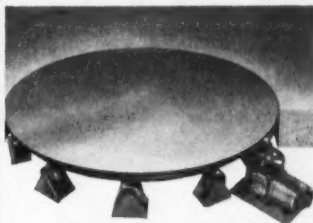
dling Society and the industrial engineering department of the Illinois Institute of Technology.

• Charles O. Roth Jr., special representative of Hinde & Dauche Paper Co., addressed a recent meeting of the Philadelphia regional division of the Society of Industrial Packaging and Materials Handling Engineers. His topic was "What The User Should Know About Corrugated Boxes."

• "Safe Transit—A Sales Tool For You," was the topic for discussion at a meeting of the National Safe Transit Committee in Chicago last month. Leading representatives of manufacturing companies, carrier groups and container firms exchanged valuable information on reducing transit damages, sales promotion and public relations.

Circle No. 102 on Reader Service Card

Flexible, Adaptable CHASE Turntable ... Turns Products, Trucks, Cars



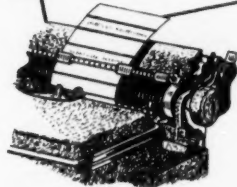
Sizes and Capacities
to 10 tons

CHASE Turntables are power driven, can be equipped with steel rails, grooved or top surfaced to your specifications. Diameters up to 8'. Indexing and locking device available. Requires a pit only 15" deep. Turns autos in show rooms, conveyor line products, rolling stock. Has many applications. Write for specification sheets.

CHASE FOUNDRY & MFG. CO.

Industrial Car and Truck Builders
For Over 50 Years.
2600 PARSONS AVENUE
COLUMBUS 7, OHIO

New LABELON Plastic
FLAT LABELS
for easy
TYPEWRITER USE
as well as pencil or stylus



Write Dept. FX

Won't
Smudge!

RESISTS DIRT
GREASE
WATER
ACIDS

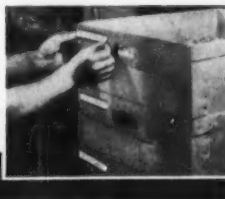
STICKS WITHOUT MOISTENING

LABELON
PLASTIC

Write on it
TAPE



For ROUTING,
INVENTORY
MAINTENANCE, etc.



SET AT
"STENCIL"
•
INSERT
AND TYPE
•
STRIP
AND APPLY

You asked for them, and here they are—handy tablets of self-sticking, plastic Labelon Tape in flat form on backing sheets for easy typewriter use. Just set typewriter at "Stencil," insert sheet of Labelon, and type your copy. Then strip off labels and apply.

Choice of 6 widths ($\frac{3}{16}$ ", $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{1}{2}$ ", $1\frac{1}{2}$ ") in 4 border colors (black, blue, red, green). For maximum legibility, all tablet form Labelon writes black regardless of border color.

LABELON TAPE sticks without moistening to any smooth, dry surface . . . yet strips off cleanly. Type on it, or write with dry, blunt point such as pencil or stylus. Message is easy-to-read, highly visible. It CAN'T SMUDGE . . . resists dirt, grease, water, acids—because surface is protected by transparent plastic.

Use Labelon to mark office files, folders, shelves . . . to label bins, stockroom shelves, tools, drums, trays, tote boxes . . . to indicate rejects and service repairs . . . to identify panel boards, wiring, test equipment. Perfect, too, for laboratory and darkroom use.

See your nearest dealer, or write for samples and prices.

LABELON TAPE CO., INC., 450 Atlantic Ave., Rochester 9, N.Y.

Circle No. 128 on Reader Service Card for more information

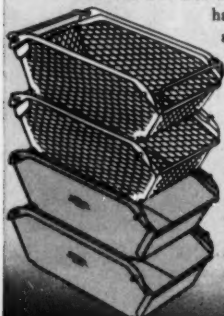
IF YOUR ANSWER IS "NO"
TO ANY OF THESE QUESTIONS
THE **NESTIER** SYSTEM
CAN REDUCE YOUR COST OF
SMALL PARTS
HANDLING

CHECK	YES	NO	NESTIER
Can your present shop boxes be nested to save space?			Yes
Can your present shop boxes be stored in a rigid stack, efficiently, neatly?			Yes
Are parts visible, easy to withdraw, when boxes are tiered?			Yes
Can you depress parts without changing containers?			Yes
Are stock flow lines and dividers available to eliminate parts damage?			Yes
Are your boxes designed for movement by any conveyor, pallet or skid?			Yes
Are your shop boxes easily, safely carried by hand?			Yes
Can your boxes, without shelving, be used as movable stockroom fixtures?			Yes

Yes, THE NESTIER SYSTEM
does everything modern shop boxes should do
—and WE CAN PROVE IT!

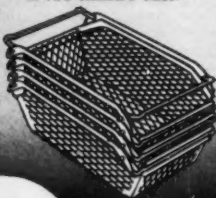
Give us the opportunity and we'll be on the spot to prove how the NESTIER SYSTEM eliminates loss of time, space and motion . . . reduces handling hazards . . . speeds up production.

Write now and we'll have one of our materials-handling engineers arrange for a demonstration in your plant at your convenience.



IT NESTS—IT TIERS

Heavy-gauge steel inter-changeable boxes or baskets in two standard sizes.



NESTIER
®

The Chas. Wm. Doepke
Manufacturing Co., Inc.
Rossmyre, Ohio



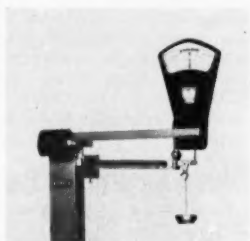
BOOTH 714

NEW EQUIPMENT . . .

(Continued from page 44)

For Speedier Weighing

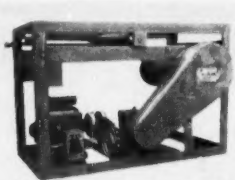
Shown here is the Detecto-Gram Universal Head, manufactured by Detecto Scales, Inc. It is said to facilitate and speed weighing, and at the same time promotes accuracy. The unit can be attached to any platform scale in a few minutes, and it converts the ordinary beam scale into a reportedly efficient, high-accuracy weighing apparatus. The universal head magnifies the beam movement of ordinary beam scales 9-1/2 times, and its air dash-pot stops the indicator at the exact load weight. Thus, the slightest underweight or overweight is indicated.



Circle 183 on Reader Service Card for more information

Conveyor Drive Unit

This conveyor drive unit contains the motor, take-up roller, idler roller, drive pulley, reducer and variable speed drive in a structural frame of formed angle steel. Manufactured by Island Equipment Corporation, the unit can be placed at any location under the frame of live roller or belt conveyors or under gravity rollers to make belt conveyors. Known as the Package Power Unit, it is available in belt widths of 12 inches to 36 inches, in any fixed speed from 5 fpm to 100 fpm. HP requirements range from 1/4 to 1 1/2 HP. Length of the unit is 30 inches, and depth is 20 inches.



Circle 184 on Reader Service Card for more information

Signaling System

A single tone selective signaling system has been developed by Motorola, Inc. The system has been designed for use in conjunction with any communication medium—two-way radio, land lines, microwave or power line carrier. The function of the system is to allow any operator to initiate an operation at one or more remote points through an intervening commu-



Circle No. 150 on Reader Service Card for more information
150

nication medium. The operation may be the selection of a particular receiver or group of receivers from many receivers in a system, the selection of a particular relay transmitter, the illumination of a particular lamp on an indicator panel or any operation that can be remotely controlled by a relay.

Circle 185 on Reader Service Card for more information

Appliance Truck

Shown here is an appliance truck manufactured by The American Pulley Company. This truck is one of the improved line of American-Keen appliance-handling equipment. The line consists of seven hand trucks and other appliance-handling equipment, five of which are made of extruded magnesium sections.

The line is designed specifically for the many and varied problems faced by movers, installers and service men. According to the manufacturer, the equipment is light in weight, strong, rigid in construction and maneuverable in operation.

Circle 186 on Reader Service Card for more information

Crawler Crane

This Lorain 45-ton crawler crane is manufactured by The Thew Shovel Company. With a model designation of Lorain 820-KS, it consists of a diesel powered turntable with hydraulic coupling power take-off mounted on an extra long, extra wide crawler. Air assist on boom hoist with ratchet and pawl

safety lock are features especially incorporated for crane work. Power for the crawlers' two travel speeds in both directions is transmitted by a separate, horizontal, independent travel shaft on the turntable. Thus, both swing and travel operations are independent of each other or may be used simultaneously.

Circle 187 on Reader Service Card for more information

Electronic Counter

A high speed predetermined electronic counter which employs an all cold cathode tube design has been announced by Haledy Electronics Com-

now! stop stoppage

in bins and
hoppers with



... the only device that
feeds stubborn materials
uniformly and noiselessly
from bins and hoppers by
positive displacement

PneuBin is a new but proven solution to the common, costly bin-flow problem. Neoprene panels, pulsating inside the bin walls, will feed the most difficult materials ... from soap to salt, cork to coal, coarse lumps to micron fineness.

PneuBin moves the contents, not the bin ... prevents arching and funneling, eliminates noise, saves bin repairs, permits closed tops. PneuBin succeeds where other devices fail.

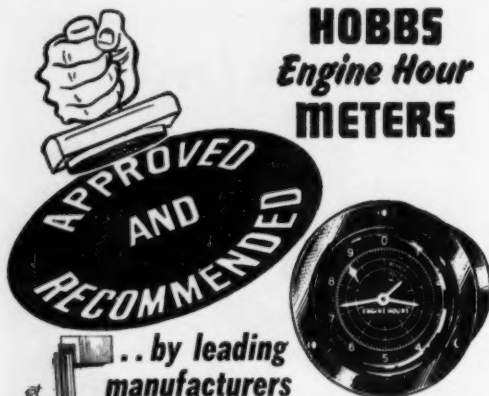
Write for "Flow Stoppage Report" form ... no obligation.

PneuBin is a product of GEROTOR MAY CORPORATION, Baltimore 3, Maryland ... manufacturers of

GEROTOR

hydraulic
pumps
and
motors

Circle No. 153 on Reader Service Card for more information



... by leading manufacturers

HOBBS ENGINE HOUR METERS are installed as original equipment by leading manufacturers of materials handling equipment... and recommended as an approved accessory. A primary reason for this acceptance is the fact that the HOBBS ENGINE HOUR METER is not a revolution counter, but a true timing instrument that records hours and minutes of equipment operation. It takes the guesswork out of maintenance... helps prevent breakdowns and prolong equipment life.

PROMPT DELIVERY! Order now from your factory branch, representative or distributor... or send for Catalog 569 for COMPLETE INFORMATION.

ORIGINATED AND MANUFACTURED EXCLUSIVELY BY

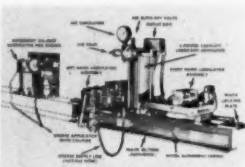
John W. Hobbs Corporation
2061 YALE BLVD. SPRINGFIELD, ILLINOIS

pany. Said to be simple to operate, this counter is able to produce easy-to-read output information on large illuminated numerals for direct panel readouts without any interpolations or additions for any digit.

Circle 188 on Reader Service Card for more information

Automatic Lubricator

Shown here is the Alemite lubricator which delivers a pre-set, constant shot of either oil or lubricant to each conveyor trolley wheel on each side of the conveyor system into which it is installed. When every wheel in the system has been serviced, the system may be switched off and is ready to go into operation again at whatever lubrication



interval load and other conditions require. The entire unit is contained on a section of I-beam 37 3/4 or 40 inches in length which is fitted into the conveyor track at any convenient spot in its length, so long as the location is within reach of the house air line and a 115-V, 60-cycle electrical outlet. Headroom of 22 inches over the top of the I-beam is required. Manufacturer is the Alemite division of Stewart-Warner Corporation.

Circle 189 on Reader Service Card for more information

THE "Easy-tote" TRADE MARK REGISTERED DEPARTMENTAL TRUCK

USERS LIKE THEM... 75% REORDER

75% of users reorder... proof of the lower cost, easier handling Easy-totes provide on countless, small, important jobs. Large and small plants use this all-purpose truck to out-manuever and out-perform conventional hand trucks. There's nothing else like it. Three wheel arrangement, swivel caster in rear, low tilting baseplate (16" x 22"), adjustable hook and crank permit one man to handle loads up to 400 lbs. quickly, without lifting injuries. No need to "muscle the load"... see 1-2-3-below. See this proven equipment... give Easy-tote a trial... order one today—only \$28.00. Send for further information.

THE EASY-TOTE PRODUCTS CO.
P. O. Box 86 Buffalo 17, N. Y.

STOP THIS!
USE EASY-TOTE



Circle No. 18 on Reader Service Card for more information
152



**HELPS YOU
MOVE MORE
TONAGE**

Christensen's Easy Load Transfer Plate

These manually operated plates are a fixed installation. When not in use they rest flush within the floor; thus no floor space is lost. Four standard sizes have capacities from 3500 lbs. to 15,000 lbs. All models feature all-steel welded construction.

Write Today for Details of the Complete Line of Loading Ramps

Wm. Christensen Co., Inc.
DEPT. F-53 • YORK, PENNSYLVANIA

Circle No. 12 on Reader Service Card for more information
FLOW • APRIL, 1953

Wide Tread Wheels

Here is the "Roll Chief" Geneva engineered disc wheel with the exceptionally wide rim and wide tread and cross-section pneumatic tires and tubes, manufactured by The Geneva Metal Wheel Company. The wheel is available in 8, 10, 12, 14, 16 and 18-inch rubber diameters. They are made with a choice of hub length, and bearing types for various spindle sizes. These

wheels are said to carry greater loads easier, and with more flotation, cushioning and longer life.

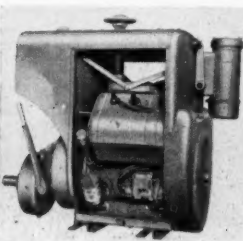
Magnesium Barrel Skid

This all-magnesium barrel skid for drum and barrel handling is manufactured by Magline Inc. Of welded construction, the barrel skid combines light weight and ease of handling with capacity-rated strength. According to the manufacturer, the unit speeds the handling of drums and barrels, reduces the risk of lifting injuries, and assures greater safety to equipment. They are available in standard sizes, ranging from 5 feet to 18 feet in length. Special sizes also are manufactured.

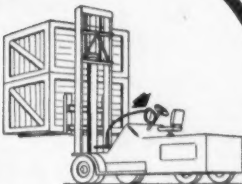
Circle 191 on Reader Service Card for more information

Heavy-Duty Engine

This 4-cylinder, V-type Model VG4D is the latest addition to the Wisconsin heavy-duty air-cooled engine line. Manufactured by Wisconsin Motor Corporation, it has a 3½-inch bore, 4-inch stroke and 154 cubic inch displacement, developing a peak rating of 36 HP at 2200 rpm. It is claimed to be an exceptionally smooth-running, even-firing engine, designed to provide the extra margin of power needed for operating equipment within a 25 to 36 HP range. Features



**KNOW THE WEIGHT
OF YOUR LOAD
AS YOU LOAD IT**



When ordering, specify model, capacity and ram diameter.

MARTIN-DECKER LIFT TRUCK SCALES

For any hydraulic cylinder type lift truck

The Martin-Decker Hydraulic Lift Scale fits right on any Hydraulic Cylinder Type Fork Truck. It shows the driver exactly how much weight he has picked up with the truck, thus insuring full load with safety every time. These scales are particularly advantageous where lift trucks are handling loads of varying weights.

**Ideal for testing truck ratings
Permits better floor weight distribution
Safeguards elevators from overloads**

Makes every lift truck automatically a scale

This device also enables a fork truck driver to keep count of the total weight loaded on a highway truck or railroad car. It is in effect a portable scale as well as a fork truck.

**Safe • Accurate • Simple • Rugged • Convenient
Saves Time and Equipment • Reduces Accidents
Easy to Install • Low Cost**

ECONOMICAL

Lengthens truck life. Saves truck wear, tear and maintenance. The time and equipment savings will in a short time more than pay the cost of the scales.

SAFE

Protects trucks, loads and life. Eliminates accidents. Fits into every safety program.

DEPENDABLE

These Lift Truck Scales are made by the world's leading industrial weight measurement instruments concern.

EASY TO INSTALL

No special attachments are necessary for installation. The unit is of rugged construction with an oil-filled, perpetually lubricated gauge and high-pressure, synthetic rubber-covered wire braid hydraulic hose. The scales are actuated directly by the hydraulic pressure which lifts the load, eliminating chance of error from mechanical transmission.

Available in six models ranging from 2,000-lb. to 18,000-lb. capacity.

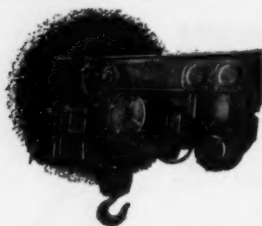
MARTIN DECKER CORP.

HOME OF
THE WHEEL
INDICATOR

LONG BEACH, CALIFORNIA

Circle No. 134 on Reader Service Card for more information

Circle No. 19 on Reader Service Card for more information



keep
production
materials
moving
with

ELECTROLIFT WORM DRIVE HOIST

Safer, smoother, faster action features of ElectroLift will keep your materials and loads moving economically. One-man, quiet operation. Wide selection of speeds, capacities and controls.

For further information consult your ElectroLift representative listed in telephone directory.



ElectroLift, Inc., 30 Church St., New York 7, N. Y.

include tapered roller main bearings; dynamically balanced forged crankshaft; mirror finish on crank pins; Stellite-faced exhaust valves, valve seat inserts and honed cylinders for long, heavy-duty engine life. When specified, these engines may be equipped to operate on kerosene, fuel oil or natural gas.

Circle 192 on Reader Service Card for more information

Bin Boxes

These bin boxes made of chemically-hardened corrugated board are manufactured by Convoy, Inc. These containers save the cost of bin dividers and have a riser front to increase bin capacity. Instead of scooping out contents of bins at inventory time, the entire box may be pulled out and weighed. The manufacturer states the rigidity, dimensions and handling ease of the bin boxes permit cross stacking for quick transfer by pallet. The bin boxes for 36-inch shelving shown here are also produced for 24-inch deep shelves.



Circle 193 on Reader Service Card for more information

Trucks can't pay you when they're standing still



Loading, stockpiling, yard-tending . . . all are faster, at lower cost with big-capacity MM Wheelers.

Rapid-loading MM Wheelers keep trucks *rolling*, get *more* work out of your truck fleet. These big-capacity industrial loaders actually give you 3 loads for 2, get trucks in and out *faster* for the top dollar profit. Large buckets on the 30 h.p. RTI and 51 h.p. UTIL handle 1½ to 2½ tons per trip. Special attachments and extra high lifts are available to meet your requirements. See your MM dealer for the facts on the MM UTIL Shuttle Gear that makes loading 50 per cent faster, gives you 3 loads for 2!

Keep 'em rolling

WITH RAPID-LOADING



WHEELERS



Get trucks in, and get 'em out again. Load up to 2½ tons per trip with easy-handling MM Wheelers.

MINNEAPOLIS-MOLINE • MINNEAPOLIS 1, MINNESOTA

Circle No. 160 on Reader Service Card for more information

Hanging Scale

The Model 2110 Hanging Scale is the latest addition to the Toledo Scale Company line of industrial weighing equipment. It was developed as a multi-purpose scale and will handle a wide range of weighing jobs, including pilot weighing parts or products, and test and estimating work. It has large 13 1/4 inch dials on both front and back to permit easy reading of the weight indications, and an air cylinder control brings the indicator to rest quickly. The scale is suspended from an overhead support with a swivel type hanger so it may be turned to suit the convenience of the operator. Maximum scale capacity is 30 pounds and overall height of the scale is 36 inches.

Circle 194 on Reader Service Card for more information

Improved Truck Tire

Based on millions of miles of actual road testing under hardest operating conditions and through all types of weather, an improved truck tire has been introduced by United States Rubber Company. Known as the U. S. Royal Fleetway, the tire has been designed to reduce road failure and to give up to 41% more original tread miles than previously realized in tires.

Circle 195 on Reader Service Card for more information

Indoor-Outdoor Fork Truck

Shown here is a 6000-pound gas-powered fork truck on pneumatic tires manufactured by The



Ross Carrier Company. Designed to expedite indoor-outdoor handling operations, it incorporates these features: the open tower provides unobstructed vision for the driver because the hoist cylinders and chains are located within the side members of the tower; single lever control of hoisting and tilting speeds

handling; four speeds forward, four reverse for any operating condition; same tire sizes front and rear simplifies the problem of stocking spare

BELT PORTABLE CONVEYORS

move boxes, bags • bulk

PUT THRIFT IN EVERY MATERIAL SHIFT



MODEL R VERSAVEYOR BAG AND BOX HANDLER

Here Versaveyor feeds a gravity conveyor, saves time and manpower stacking and storing. Guide rails, floor-to-floor stands and other accessories available to fit this versatile unit to many cost-cutting jobs in your operation.



MODEL S HANDY-HANDLER

Lightweight, multi-purpose conveyor for handling coal, salt, sawdust, feed and similar bulk materials.

Write for free literature on any of the above conveyors or outline your special handling problem and we'll forward additional information.

THE BELT CORPORATION

7204 STAHL ROAD

ORIENT, OHIO

Circle No. 157 on Reader Service Card for more information

Well Stacked!

That's for sure — if it's stacked on strong square tubular EMI racks. They are designed not only to save floor space through claiming of "air rights," but to do it as efficiently as possible. EMI designs provide for safe, easy stacking and assembly.

Let our rack specialists assist you in planning your new system to incorporate the economies of unit load handling in production and storage, regardless of the type material or products involved.



Write
for our
catalog

EMI

**EQUIPMENT
MFG. INC.**

21552 HOOVER ROAD, DETROIT 5, MICHIGAN

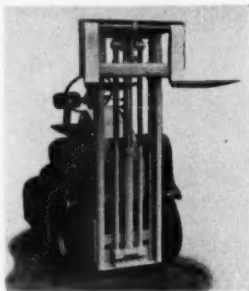
Booth 1005, Materials Handling Show, Phila., May 18-22

tires; larger wheels on rear of machine makes steering easier; planetary gear drive in the wheels reduces wear on differential and drive axles.

Circle 196 on Reader Service Card for more information

Free Lift Accessory

This free lift accessory is designed to fit all Hi Duty fork trucks and is available as added equipment, according to the manufacturer, Transitier Truck Company. The accessory is said to depart from the conventional accessories of this type inasmuch as it is entirely hydraulic. By using the free lift accessory, the load on the forks can be lifted as high as 5 feet, 4 inches before the mast begins to move upward. This height applies to a Hi Duty truck with a standard 9-foot mast which has a collapsed height of 6 feet, 6 inches. The free lift on a truck with a 7-foot mast which collapses to 5 feet, 6 inches, is 4 1/4 feet.



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MAN SAVER



Sweeps up to 400% faster than costly pushbroom cleaning . . . saves money . . . saves manpower

A Parker Floor Sweeper saved \$2100 a year for a food manufacturer—\$520 a year for a lumber yard—75% of all sweeping costs for a building material manufacturer. You, too, can save.

Sweeps all type floors. Collects and sweeps in one operation.

Easy to empty. A money-saver for any plant from small garage to large factory or warehouse.

Now available—information file containing time studies, case histories, and full details. Write, wire, or telephone today.

FACT FILE AVAILABLE

**PARKER INDUSTRIAL
FLOOR SWEEPER**

PARKER SWEEPER CO., 74 Bechtie Ave., Springfield, Ohio

Circle No. 54 on Reader Service Card for more information

FLOW • APRIL, 1953

Radial Bearings

The Nice Ball Bearing Company announces a line of precision ground radial bearings. Designated "C" Series, these bearings are of the solid race type with ball retainers and are made in inch dimensions which correspond to established light duty inch standard sizes. They are designed for light duty radial, thrust or combined load applications and speeds in the neighborhood of 5000 rpm maximum. They are available without shields, single shielded or double shielded.

Circle 198 on Reader Service Card for more information

Conductor System

The Electric Service Manufacturing Company has announced development of an aluminum third-rail conductor system with safety enclosures for powering moving cranes of all types, ore bridges, and allied material handling equipment. Called the Keystone system, it offers a design capacity of 1000 amperes in a conductor weighing 1/20 that of steel rail-copper booster



THE "Handy" CASE TRUCK

for WAREHOUSES
DELIVERY TRUCKS—
OFFICES—STORES—
INSTITUTIONS—
GENERAL USE

Here's a light, strong, easy-to-use truck for beverage handlers, shop receiving rooms, retail stores, etc. Ideal for use on delivery trucks. Large, quiet, 10" semi-pneumatic wheels absorb jars, roll easily over curbs, and climb stairs. Perfectly balanced for easy handling of cases, boxes, cartons, kogs, cylinders and all moderate-weight loads. Model No. 51, shown above, has Hyatt roller bearing wheels equipped with grease fittings.

Visit Our Booth No. 901 at the 5th National Material Handling Exposition, Philadelphia—May 18-22.

THOMAS TRUCK & CASTER CO.

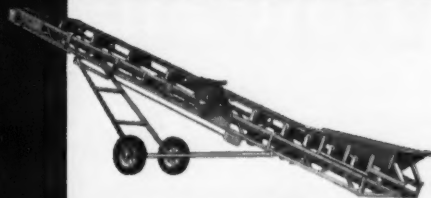
294 Mississippi River
KEOKUK, IOWA

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Send
for Free Catalog
to see complete
line of
Case Trucks.

SAVE MANPOWER



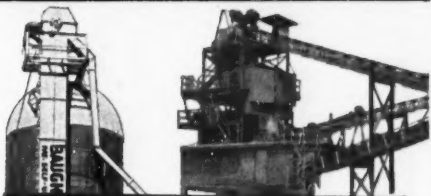
MODEL 230—Portable "Hi-Speed" troughed belt conveyor . . . standardized and "job-fitted" for more economical and faster handling. Built in lengths up to 46 ft. Powered by gasoline or electric motor. Write for Bulletin A-296.

with BAUGHMAN



MODEL Q-51—New Hi-Speed Screw Conveyor for all material that rolls or becomes fluid in motion. For permanent installations or portable models as shown above. Underbin or undertrack screw loader easily attached. Write for Bulletin A-295.

Bulk Material Conveyors



MODEL 175—Hi-Speed Belt and Bucket Elevator. Fully enclosed, spaced buckets, centrifugal discharge elevator for permanent or temporary installations. Also open belt and bucket elevators, Models 210 and 220 available. Write for Bulletin on these models.

MODEL 225—Conveyor combinations assembled from standardized sections, easily "job-fitted" to any bulk material handling. Prompt delivery from stock. Write for Bulletin A-342.

Sold and serviced nationally and in Canada. Write Baughman, the Best name in Bulk material handling.



BAUGHMAN MANUFACTURING CO., INC.
102 ARCH ST., JERSEYVILLE, ILLINOIS

Circle No. 5 on Reader Service Card for more information

How much

do you weigh?

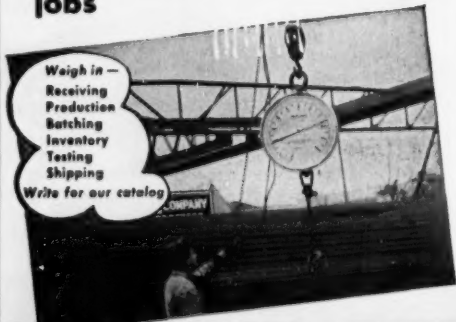
ON DISPLAY,
Booth 637,
Materials
Handling
Show,
Philadelphia,
May 18.

Not you, but your products! Do you weigh in receiving, at production stages, etc. to protect your operation against overcharges, losses, miscalculations? **HYDROSCALE**, the hydraulic crane scale, makes it practical to check whenever and wherever you should, weighs on the spot, eliminates weighing stations and man power and equipment tie-ups.

36 MODELS,
500 to
200,000 -
LBS.

HYDROSCALE

reduces the
effort and
expense
associated with
routine weighing
jobs



Weigh in —
Receiving
Production
Batching
Inventory
Testing
Shipping
Write for our catalog

HYDROWAY SCALES, INC.

20428 W. 8 Mile Rd., P.O. Box 4754 Detroit 19, Mich.

Circle No. 123 on Reader Service Card for more information
158

combinations. It can be used for control and medium amperage conductors and can be applied in parallel to handle currents two or more times its normal rating.

Circle 199 on Reader Service Card for more information

Platform Lift

Operated by a 2 HP motor, this Portelator, as The Hamilton Tool Company calls it, has a load capacity of 3 tons. It is equipped with reversing magnetic starter, limit switch and overload protection. Push-button operated, the table has a total vertical travel of 78 inches. Table size is 48" x 84". In this particular operation, a skid is positioned on the platform and the platform is raised to maximum height, 30 inches above floor level. As paper sheets are received on the skid, the platform is lowered until it reaches its extreme low position, 48 inches below floor level, and then returned to floor level where a fork truck removes the stock to storage.



Circle 200 on Reader Service Card for more information

You can provide easy mobility to a variety
of industrial products with
**IRONBOUND ALL-PURPOSE
HANDLING UNITS . . .**

POPULAR IRONBOUND

**FLOW
TRUK**

• An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.



The HANDY
for furniture and
similar items.



The HAULER
for cases, crates,
rate boxes, etc.



The HUSKY
for general use
throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.



MADE TO BE BUILT
Ironbound
The Ironbound Way

**IRONBOUND
BOX & LUMBER COMPANY**
Materials Handling Division
30 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS
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FLOW • APRIL, 1953

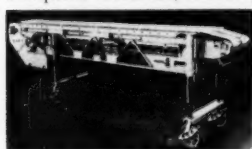
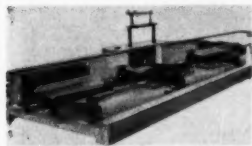
Motor Truck Scales

The Howe Scale Company has announced its four-section straight lever motor truck scales, designed as a companion unit to the Howe pipe lever ball-bearing motor truck scale. A straight lever design is used to obtain optimum strength with the least weight. Anti-friction plates are used to give proper clearances and to eliminate all lateral motion. This scale has a capacity of 50 tons. Platform sizes are 45, 50, or 60 feet long by 10 feet wide.

Circle 201 on Reader Service Card for more information

Adjustable Conveyor

Manufactured by The Oliver Corporation, A. B. Farquhar Division, this Expand-O-Veyor, a completely adjustable conveyor, can be set high or low, long or short, or at any angle in either direction to suit varying requirements. The machine is currently available in two sizes. The smaller unit is adjustable from 11 feet to 18 feet in length;



H
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Each model originally designed for a customer

In virtually all cases, the "ancestors" of the trucks shown in the Hamilton Catalog were custom-built to meet customers' individual needs. So we have platform trucks, box trucks, shelf trucks, table trucks, wagon trucks, hand trucks and many unique trucks designed specifically for all conceivable kinds of establishments.

Get our catalog and see what we have for you.



THE HAMILTON CASTER & MFG. CO.
1672 Dixie Highway • Hamilton, Ohio

Circle No. 30 on Reader Service Card for more information
FLOW • APRIL, 1953

Position Freight Carriers To Any Level With



ROWE
ADJUST-A-TRUCKS

Now, When You Can't Adjust Your Docks, You Can Adjust Your Trucks

Here is the answer to the problem shared by many companies who do not have room on their docks or in front of their docks to install adjustable dock ramps. Now, Rowe Methods, Inc., manufacturer of the world famous Adjust-A-Dock, brings you its ADJUST-A-TRUCK, which brings any vehicle to dock height. Here is a unit that is set into the pavement in front of the dock and by means of a heavy-duty electric hydraulic system to adjust each vehicle to dock height; its capacity, 40,000 lbs.

Here's How It Works



Write today for this free, informative booklet, illustrating and describing the revolutionary Rowe Adjust-A-Truck.



SEE US AT BOOTH NO. 1519, NATIONAL MATERIAL HANDLING EXPOSITION, PHILADELPHIA CONVENTION HALL, MAY 18-22

ROWE METHODS, INC.

2534-C DETROIT AVENUE • CLEVELAND 13, OHIO

Circle No. 145 on Reader Service Card for more information

HERCO



4 WAY UP-DOWN-RIGHT-LEFT COUNTERWEIGHT ACTION DOCKBOARD



Positive geared counterweight action
Simplified geared side to side adjustment
Improved compensating counterweight action
(Assures board contact with truck at all times)
Installation made simple with new design
Operates in all kinds of weather
Adjustable to varying truck heights
Right or left hand control
Automatic locking in up position



- NO MAINTENANCE OR UPKEEP ● BUILT TO MEET TODAY'S TOUGH DOCKBOARD PROBLEMS
- MASS PRODUCTION METHODS MAKE THE HERCO AVAILABLE FOR ALL APPLICATIONS ● LOW IN COST ● ECONOMICAL INSTALLATION ●

Karl A. HERMAN Company
412 FULLER AVE., N. E.
GRAND RAPIDS, MICH.

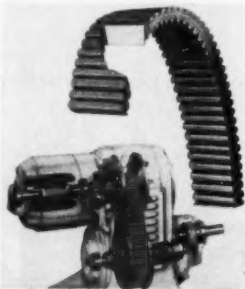
Circle No. 164 on Reader Service Card for more information
160

the larger, from 15 feet to 25 feet. It is said to be ideal for loading trucks and similar operations where it is desirable to move the discharge end of the conveyor without moving the conveyor itself.

Circle 202 on Reader Service Card for more information

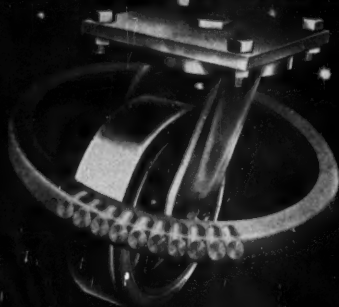
Double-Ribbed V-Belt

This double-ribbed V-belt is said to reduce internal friction and permit far greater flexibility in varidrive motors produced by U. S. Electrical Motors Inc. By application of the double-ribbed design, replacing the single-ribbed belt, greater speeds and smaller diameters can be combined. The use of synthetic fiber instead of cotton cords adds 25 percent more strength and permits the use of smaller cords to reduce heat. The outer periphery is relieved of destructive tensile strains; the inner periphery is free from excess compression, according to U. S. Electrical Motors.



Circle 203 on Reader Service Card for more information

UNIVERSALLY SENSATIONAL- The New "Loadmaster"!



For superior performance and durability, the new Midwest "Loadmaster" Trailer Caster is by far the most efficient and economical caster you can buy. The new Timken roller load bearing is a complete self-contained unit . . . can be replaced in a jiffy . . . permanently eliminates damage to raceways! Rollers are protected from dust and dirt. Grease retainer is an integral part of bearing. Features $\frac{5}{8}$ " steel top plate, $1\frac{1}{4}$ " King bolt and Timken Tapered thrust bearing. Wheels to suit. The new "Loadmaster" offers lower friction ratings plus ability to take abuse without breakdowns.

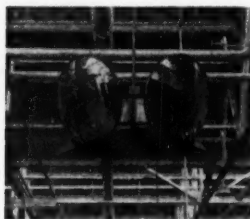
WRITE TODAY FOR COMPLETE INFORMATION

MIDWEST PRECISION CORPORATION
Hillsdale & Stock
Jackson, Michigan

Circle No. 47 on Reader Service Card for more information
FLOW • APRIL, 1953

Traffic Safety Mirror

Shown here is a pair of 18-inch convex mirrors manufactured by Silver Troy Mirror Company,



Division of Silver Troy Industries. The mirrors are placed at intersecting aisles, and show what a truck driver or pedestrian would see as he approaches a main aisle. The mirrors, of course, reflect the secondary

aisle to anyone traveling the main aisle. These convex mirrors are shipped complete with adjustable swivel backs, and may be mounted at any blind spot in the plant. The illustration shows a two-mirror installation, and other installations may be adapted for three or four mirrors.

Circle 204 on Reader Service Card for more information

Maintenance Machine

The Wilshire 3-way Maintainer not only sweeps mechanically 6 to 15 times faster than a man with a broom, but also provides a suction system for picking up dust and dirt in out-of-the-way places as well as a blower system for blowing dust from machines and other equipment, with this dust being picked up by the suction system. Pick-up wand, extendible hose, pick-up and

blow-down tools are all carried on the sweeper. Manufactured by Wilshire Power Sweeper Company, it is built in two standard sizes for 24 and 36 inch swaths. The 24-inch model sweeps 20,000 to 30,000 square feet per hour and the 36-inch model sweeps 30,000 to 45,000 square feet per hour when used on continuous sweeping duty.

Circle 205 on Reader Service Card for more information

Double-Boom Conveyor

Shown here is the double-boom Adjustoveyor, a recent addition to the line of adjustable length conveyors manufactured by The Stewart-Glapat Corporation. The unit is designed for heavy-duty applications which require heavy load-carrying capacities, and has the added feature of increasing its open length 220 percent over its closed length. Construction

features heavy truss design, to carry loads of 50 to 100 pounds per linear foot, depending on



Phillips INDUSTRIAL TRAILERS

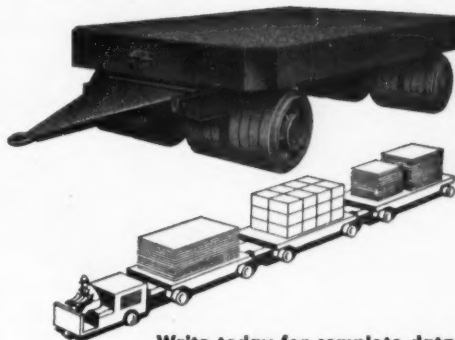
✓ FOR HAULING ALL KINDS OF
INDUSTRIAL PRODUCTS—MATERIALS

✓ MADE IN SIZES AND CAPACITIES
TO MEET YOUR NEED

✓ FEATURE TIMKEN BEARINGS
PNEUMATIC OR SOLID TIRES
ALL STEEL WELDED CONSTRUCTION



MODEL TD-400
20 Ton Capacity



Write today for complete data!

Phillips Industrial Trailers simplify hauling of heavy loads in and around industrial plants . . . with substantial savings in time, effort, and money. Ruggedly built to withstand long, hard usage, these trailers are available in 2½, 5, 10, 15 and 20 ton capacities. Easily maneuverable—they can be used singly or in tandem, for every industrial hauling requirement.

MANUFACTURERS
SINCE 1863

PHILLIPS
WIRE AND MILL SUPPLY COMPANY

PITTSBURGH,
PA.

MATERIALS HANDLING EQUIPMENT

2300 JANE STREET • PITTSBURGH 3, PA.

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Circle No. 119 on Reader Service Card for more information

TOPS IN FEATURES YET LOW IN PRICE



NEW

Materials Handling Basket Combination

- Safe, sturdy, durable—backed by manufacturer with 33 years experience making materials handling equipment.
- Stack-Lock design. Handles of each basket nest into handles of basket below locking stack safely together.
- Can be supplied with either castor dolly, or fork-lift pallet.
- Baskets, dollies or pallets supplied separately or in combinations, one or a thousand.
- Baskets made especially to suit your needs—any size, with dollies or pallets for single or multiple stacking.

WRITE FOR PRICE LIST

New bulletin (F3) on Hoff Crafters Trucks, Rocks, Dollies, Trays, Baskets, with price list, will be mailed to you without obligation. Write today.

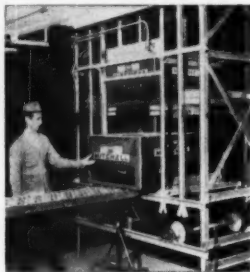
HOFFMAN COMPANY
41-43 N. PENN ST., YORK, PA.

model. Models are available from 8 feet to 25 feet closed, and from 16 feet to 61 feet open, and can be operated at any boom extension distance in between. It is available with fixed height legs or adjustable legs that will allow elevations for stacking up to 30°.

Circle 206 on Reader Service Card for more information

Industrial Subveyor

This industrial-type subveyor developed by Samuel Olson Manufacturing Company is said to provide fast vertical handling of materials in trays, cartons, boxes, etc. Packages are supported by flights on endless chains, affording a continuous flow. Automatic loading from horizontal feeding conveyors or automatic unloading onto horizontal conveyors at the discharge point can be provided. The subveyors can be furnished for practically any height to handle packages of most any size at speeds up to 30 per minute, depending on size and weight. They are said to offer advantages in processing operations, such as baking, cooling,



NOW . . . 2 TYPES OF READY-POWER DRIVE

GAS-ELECTRIC

DIESEL-ELECTRIC



GAS-ELECTRIC Models are for the tough materials handling jobs . . . DIESEL-ELECTRIC Models master the "impossible" jobs that keep trucks going day and night, year after year.



**CONTINUOUS
POWER FOR
ALL ELECTRIC
TRUCKS**



The READY-POWER Co.

3838 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

Circle No. 142 on Reader Service Card for more information

162

DILLON WEIGHT INDICATOR



WEIGH MATERIALS ON THE SPOT!

With the DILLON Weight Indicator, loads are checked on the spot as they are moved—the instant they are lifted. No need to pick materials up, move them to a scale, set them down and then pick them up again—no more double handling or high operational costs.

Accuracy is guaranteed to be within ONE division or less at any point on the dial. Adjustable for large tare loads. 16" dia. dial. Swivel hook. Accidental overload and shock protected. 8 capacities from 0-250 pounds up to 0-20,000 pounds. Portable—weather-proof—dust-proof. Each unit calibrated with certified dead weights. Extreme utility at LOW cost!

Write today for illustrated, descriptive literature.

W. C. DILLON & CO., INC.

14620-Q Keswick St., Van Nuys, Calif. (Suburb of Los Angeles)

Circle No. 107 on Reader Service Card for more information
FLOW • APRIL, 1953

drying, painting and others where materials must be kept separated for long periods in a limited area.

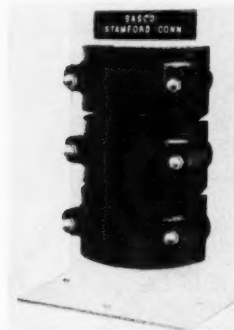
Circle 207 on Reader Service Card for more information

Sheet Separator

The Basco Manufacturing Company manufactures this device which automatically separates steel sheets of any shape. The unit comprises a permanent magnet that induces a magnetic field in the stacked steel sheets which tend to repel each other, causing the ends of the sheets to fan out with air space between them. It is a self-contained unit which requires no outside connections. Cast aluminum

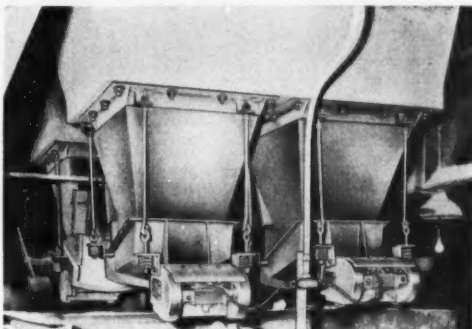
mounting plates are reinforced with stainless steel wear strips to assure long life. When used, it automatically causes steel sheets to open up for easy grasping of the top sheet. Four standard models handle sheets of 20 gauge and lighter to sheets heavier than 12 gauge.

Circle 208 on Reader Service Card for more information



Circle No. 146 on Reader Service Card for more information

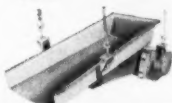
Simplify Your Bulk Materials Handling



With
SYNTRON

VIBRATORY FEEDERS

Handle most types of bulk materials—abrasive, fine, and lumpy—hot or cold—dry or damp—at variably controlled rates from pounds to hundreds of tons per hour to crushers, driers, belt conveyors, etc. Exceptionally low maintenance costs.



- Electromagnetic Operation
- Finger-Tip Control
- No Gears, Cams, Sprockets, Belts

Write for free catalogue literature.

SYNTRON COMPANY

445 Lexington Ave.

Homer City, Pa.

4

MEN ON A RAMP



Replaced by 1 and a SERVICE LEVELER

Here's the Story of Actual Manpower Savings by One Progressive Company

When the Canadian Line Materials Co., of Scarboro, Ontario, used a ramp to reach the level of their loading dock, "it was taking three or four men to shove even the smallest load up the ramp." Now, with the Service LEVELER installation pictured at right, only one man is required to move even capacity loads onto the dock. This saves the

wasted time and distraction from other duties of at least two men for every heavy shipment made... a substantial, worth-while manpower savings.

Find out how the LEVELER can cut your costs and save strain on men and mobile equipment in loading trucks and cars, lifting to different floor levels, etc. Write for detailed information today.



See Service for Specials Versatile design permits most Service lifting equipment to be made up as low-cost semi-specials to fit your exact needs. We'll be glad to discuss your requirements.



SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.

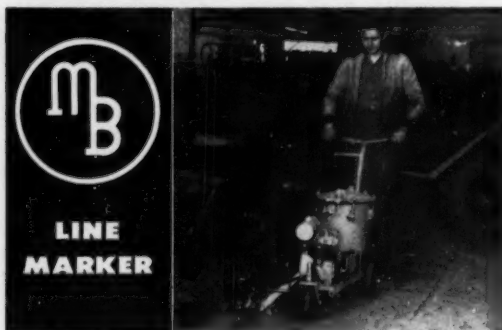
See Your Classified Telephone Directory for Nearest Distributor.

Circle No. 62 on Reader Service Card for more information

SERVICE LEVELER

Capacity — 6000 lbs.
Lift — 5'
Platform sizes — 5' to 12'
Portable and stationary models.

Circle No. 44 on Reader Service Card for more information



Avoid Costly Accidents



Keep your plant safe, and production flowing with well marked, clearly defined aisles, storage areas, machine borders. M-B Industrial Line Markers, do a fast, neat job — lay clean, sharp lines, maneuver easily, mark close up to walls.

Model 5P, carries 5 gallons of paint, lays up to 8000' per hour of 4" single line. Attachments available for use as portable paint spray unit. Send today for complete details.

MEILI-BLUMBERG CORP.
NEW HOLSTEIN, WIS.



Here is a Sauerman Scraper machine with mobile tall tower, designed for stocking out and reclaiming large tonnages of coal or other bulk materials at a rapid rate. This is one of six basic types of Sauerman stockpiling machines. Other types are built for various earthmoving applications.

SAUERMAN POWER SCRAPER

MOVES MATERIALS — faster, cheaper

Indoors or out, Sauerman Scraper Systems provide simple, low-cost handling of heaviest or lightest materials. Used at hundreds of power plants for open storage of coal; at mills and factories to store and reclaim chemicals, salt, sugar, grain, ores, etc. It's an all-weather machine, as only the scraper bucket and cables are exposed. Operator sits in comfortable cab overlooking the storage area and has finger-tip control of every move of the scraper.

Large catalog on request. Engineering advice given freely on material handling problems.



SAUERMAN BROS. Inc.

540 S. Clinton St., Chicago 7, Ill.

Circle No. 61 on Reader Service Card for more information
164

Safety Battery Caps

The danger of explosion from hydrogen gas produced by storage batteries under charge can be eliminated by the use of a catalytic battery cap, according to the manufacturer, Industrial Research Inc. Known as Hydrocaps, they contain the active catalyst palladium which converts escaping hydrogen and oxygen gases back to water.

Circle 210 on Reader Service Card for more information

Portable Conveyor

Speedways Conveyors, Inc., announces the Model SLJ-40 Speedlift, Jr., a portable power belt conveyor. It is said to be particularly suitable for loading and unloading from balconies, mezzanines and upper floors. It adjusts to any angle, and the conveyor box rides on trolley wheels during adjustment. Belt movement is reversible, and belt speeds can be supplied at standard 50 fpm or at variable speeds.



Circle 211 on Reader Service Card for more information



TRAILER TRUCKS



WAREHOUSE TRUCKS



JACKS and SKIDS



BALANCE TYPE STAKE TRUCKS



AUTO-LOAD BARREL TRUCKS



SHELF TRUCKS



DEMOUNTABLE RUBBER TIERED WHEELS

**VISIT
NUTTING BOOTH
1514**

Materials Handling
Exposition, May 18-
22, Philadelphia



NON-TILTING PLATFORM TRUCKS

FOR BETTER HANDLING

Look under "Trucks" or "Casters" in your classified phone directory for your nearest Nutting representative. Or write direct for Junior Catalog 52G.

SINCE 1891

Nutting

TRUCK & CASTER CO.
1607 Division St. Faribault, Minn.

Circle No. 52 on Reader Service Card for more information
FLOW • APRIL, 1953

"Octopus"

Development of the Octopus, a 4000-pound capacity fork truck outfitted with a special carriage and attachments to handle nearly a dozen different types of loads, has been announced by The Baker-Raulang Company. It is a standard truck equipped with the Baker 4-purpose carriage, and uses a revolving head (semi-permanent), drum clamps, hydraulic drum up-ender and clamp-spikes. Among its accomplishments are: handling ordinary pallet loads; working as a side-shifting truck to spot loads in tight areas; hauling and stacking drums and paper rolls; dumping, hauling and stacking tote-box loads; picking up a variety of pallet sizes after automatically adjusting for proper fork spacing; emptying drumloads of bulk material by hydraulically tilting drums in a vertical plane; lifting bales of cotton and crude rubber with a spike-clamp attachment.

Circle 212 on Reader Service Card for more information

Two-Way Mobile Radio

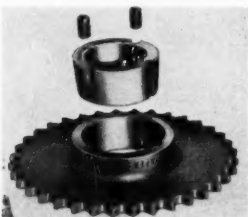
RCA Victor Division, Radio Corporation of America, has introduced ultra-high-frequency Fleetfone equipment, designated the RCA Type CMU-10A mobile transmitter-receiver, to make possible a major extension of radio service in 80 newly-assigned FCC channels in the 450-470 megacycle portion of the spectrum.

Circle 213 on Reader Service Card for more information

Roller Chain Sprocket

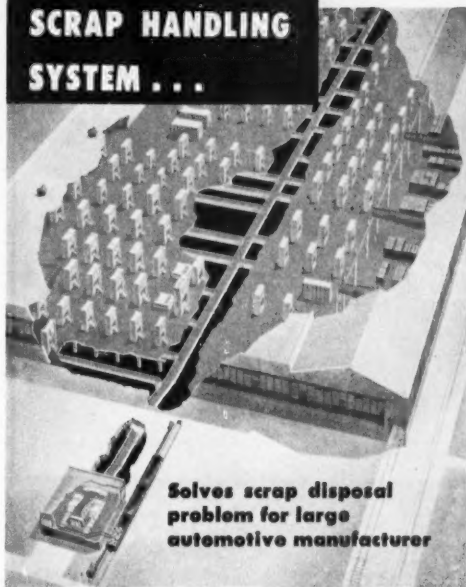
Shown here is the Taper-Lock sprocket for roller chain made by Dodge Manufacturing Corporation. These sprockets and bushings are available in a range of sizes for the majority of industrial applications. Shafts need not be turned and ground to get a tight fit with these sprockets, according to the manufacturer, yet Taper-Lock grips the shaft with the firmness of a shrunk-on fit. It is said these sprockets come off easily when replacement is necessary, and the bushing may be re-used. There is no flange and no protruding parts.

Circle 214 on Reader Service Card for more information



MAY-FRAN

AUTOMATIC SCRAP HANDLING SYSTEM ...



**Solves scrap disposal
problem for large
automotive manufacturer**

World's largest automatic scrap handling system engineered by MAY-FRAN can handle one million pounds of scrap per day ... one man controls all operations! Twenty conveyors collect scrap from presses ... transfer it to the 1145-foot main conveyors ... then scrap is conveyed to baler house where it is compressed into bales and discharged into automatically indexed freight cars on siding. Entire system is operated from a single control station.

Whether you need a complete plant-wide system or a single scrap handling unit, MAY-FRAN can meet your requirements. Conveyors of any size can be supplied using the unique MAY-FRAN hinged-steel belting. Speed-up production ... eliminate manual handling ... reduce scrap handling costs with a MAY-FRAN system!

Write today for illustrated catalog.

1024 MF

MAY-FRAN

ENGINEERING, INC.

1691 CLARKSTONE ROAD • CLEVELAND 12, OHIO

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LANGLEY HYDRAULIC SKID LIFTS



- Perfect Maneuverability
- 3000 Lbs. Capacity
- Carrying Platforms 18" and 24" Wide by 36", 42", 48", 54", 60", 72" Long
- 6", 7", 9", 11" Lowered Ht.
- Full 3" Lift
- Wheels—Steel, Rubber, Plastic

Distributor Inquiries Invited

Write for Bulletin No. 105

Model Illustrated, 6" Lowered Ht., 18" wide, 42" long with metal wheels.

LANGLEY MFG. CO.

921 CAMBRIDGE ST. • CAMBRIDGE, MASS.

**ONE MAN AND A Lincoln
AUTO-SCRUBBER**
CLEANS MORE FLOOR SPACE THAN AN
ENTIRE CREW OF SCRUBBERS AND MOPPERS!



Above: floor cleaning at well known manufacturer of office appliances with a Lincoln 500 AUTO SCRUBBER that cleans floors better in one-tenth the time at one-fourth the previous cost. Write DEPT. 4-53 for details.

**SAVE UP TO 75%
ON FLOOR SCRUBBING!**

★ Without cost or any obligation whatever, our local floor maintenance specialist in your territory will survey your present methods and submit specific recommendations to insure substantial savings.

There is a recommended LINCOLN for every floor cleaning operation. Ask for a FREE Demonstration



The LINCOLN FLOOR SCRUBBER AND POLISHER



Lincoln-Schluster

FLOOR MAINTENANCE COMPANY

1212 WEST VAN BUREN ST. CHICAGO 7, ILLINOIS

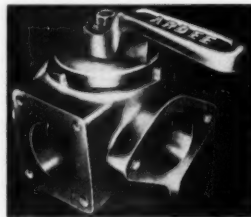
World's Manufacturer of the Most Complete Line of Floor Maintenance Equipment

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166

Recirculating Valve

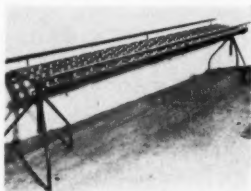
This recirculating valve that may be used for any stream dividing application of gases, air, salt water, oil and mild chemicals is manufactured by Ardee Manufacturing Company. The design incorporates a combination of plug valve principles and O-ring sealing. It is claimed that a positive leakproof condition is obtained and that handle loads and internal wear are reduced to a minimum by the use of an externally adjustable spring seating control featuring multiple ball pressure contact against a hardened wear ring.



Circle 215 on Reader Service Card for more information

Wheel Conveyors

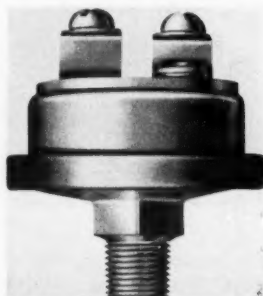
Sage Equipment Company announces a line of all-welded, standard size gravity wheel conveyors. This line handles flat bottom commodities such as sheet metal, plywood, fibreboard, cartons, boxes, cases and certain cylindrical objects. The heavy duty frame is fabricated from steel channel and each 5-foot straight line sections has three cross members. The 10-foot sections have five cross members for rigidity and alignment. They are available with 6 to 36 wheels per foot.



Circle 216 on Reader Service Card for more information

Improved Pressure Switch

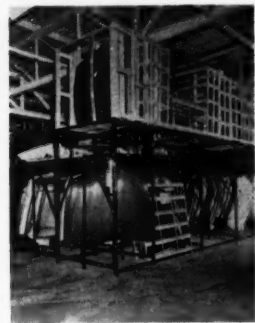
Made by John W. Hobbs Corporation, this improved pressure switch is designed especially for use in connection with the Hobbs line of engine hour meters, but can be adapted to many other uses. Improvements include: heavier materials are used for the terminals, the operating diaphragm is assembled without the use of solder, the use of solder in the final assembly also is eliminated and the ability of the switch to withstand heat and cold has been improved



by means of equalizing the pressure in the inside upper chamber with that on the outside of the switch. The switch is pressure tested at 150 pounds, and is adjusted to close circuit at 3 to 6 pounds.

Circle 217 on Reader Service Card for more information

All-Purpose Framing



Hoods and fenders are hung on individual hooks in this large motor car factory to prevent scratching and damage. Each hook fits into a channel slot and slides in either direction, similar to a clothes hanger rack. The rack is made up of Mult-A-Frame, a new product of Ainsworth Mfg. Corp. It is a fully-locking, all-purpose framing material that requires no welding, drilling or skilled labor. It is said to be quickly assembled, dismantled, and re-assembled for other uses at any time with only a standard wrench. Standard and special fittings provide an easy fast method to hang, support and frame anything.

Circle 218 on Reader Service Card for more information

Scrubbing Machine

This floor scrubbing machine is said to incorporate many features that are designed to speed floor cleaning as well as to reduce operator fatigue. A brush coupling device permits the operator to move the machine over the brush, start the motor and engagement becomes automatic. To remove the brush, the operator tips the machine up and gives the brush a slight push with his foot. The brush then comes off the shaft. Dual motor switches, one on each side of the handle, may be operated with either the right or left hand. The wheels automatically retract when the handle is raised, and the height or length of the handle may be adjusted to suit the physical size of all operators. The manufacturer is Breuer Electric Manufacturing Company.



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FLOW • APRIL, 1953

NOW—

**IT'S PRACTICAL
TO USE LIGHTWEIGHT, STRONG**

**MAGNESIUM
PLATE**

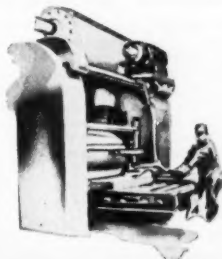


**NEW
LOW PRICES**

**on hot rolled Magnesium Plate; prompt delivery
on $\frac{3}{16}$ " and thicker**

**In plant handling and many other applications where
human-fatigue is a problem, reduce weight with
Magnesium Plate.**

**Prices are now competitive on a square foot basis
with aluminum, which is 50% heavier. Magnesium
is strong, easily formed and welded.**



**LET US SEND YOU
FACTS AND FIGURES**

**Mention the applica-
tion you have in mind,
and B&P Engineers can
be helpful. Write us
on your letterhead,
please.**

**BROOKS and PERKINS
INCORPORATED**

**Pioneer Magnesium Fabricators; Plate
and Sheet Rolled from Magnesium Ingot**

1944 W. FORT ST., DETROIT 16, MICHIGAN

Circle No. 98 on Reader Service Card for more information

For Faster, Safer Hauling

RED-E
No-Tip
DUMP
TRAILERS



**No Tip-Overs—
Weight is Balanced
At Axles—
Not Above Them!**

For both in-plant and yard work, move dirt, sand, trash, shavings, scrap, etc. the SAFE way . . . with Red-E Trailers.

Specially designed for super-stability, simplest operation over any terrain. 1 1/2-ton capacity, with 104" overall length, 41"-50" width hub-to-hub, 84" wheelbase, 4-wheel or 6-wheel models available, with pneumatic or zero-pressure tires. (Also with heavy-duty stake body.) Easy, safe 5th-wheel steering for sharpest turns; Full-ton trailer hitch for 3.5 unit trains. Rugged, practical, safe—Red-E No-Tip Dump Trailers are engineered for all-around work. Adjusts to 14, 18, 24 or 32-inch height for easy loading!

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Free
Literature

RED-E TRACTOR CO.

RICHFIELD, WISCONSIN

Classified Advertisement Section

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Allied Mfg. & Sales Co.
3135 W. Grand Avenue
Chicago 22, Ill.

HELP WANTED

ENGINEER

MATERIALS HANDLING

One of the largest manufacturers of television and radio sets offers a challenging opportunity for a Junior Materials Handling Engineer. Should have engineering degree and one or two years experience in engineering flow of materials and parts.

A qualified man will take over projects, analyze problems, make layouts and devise materials handling methods and equipment. Send complete resume to FLOW, Box 4353.

MATERIAL HANDLING SUPERVISOR

For a well-organized, resourceful and developing person, a well-established and growing company has a real opportunity on a supervisory level. Position calls for skill and experience in directing material handling and space problems in plant containing 200,000 sq. ft. Job includes supervision of warehouse and office; a staff of 34 people.

Our Company manufactures a large diversity of paper products including wrapping papers, bags, laminated paper, waxed paper. Sales activities of Company are nationwide with branches in well distributed cities.

Preferred background one that includes material handling experience and industrial engineering education. Age range 30 to 45 years. However, it will be what the man has in him for use rather than his formal education or mere years of experience that will be the basis for selection. Salary provision adequate for range from supervisor to executive level of competence.

Write giving information concerning work story, education and relevant personal data to appraise person as human being. Address reply to Personnel Director, **ORCHARD PAPER COMPANY**, 3914 N. Union, St. Louis 15, Missouri. Replies will be confidential.

Storeroom Manager, manufacturing company located in central Ohio. Desire experienced man to take charge of storerooms and warehouses. Must know good stockroom practice and material handling. Reply in detail stating age and experience. Replies held in strict confidence. Write FLOW, Box 4153.

Aggressive Sales Group—4 graduate engineers with years of experience in custom-built conveyors. Have engineering and installation facilities. Want exclusive in Detroit-Toledo area. Reply FLOW, Box 4253.

FOR SALE

(2) 1-ton Hyster Trucks; (1) 3-ton Clark Truck; (1) 2-ton Clark Lift Truck; (1) 3-ton Ross Truck; (1) Hyster Straddle Truck; (2) 2-ton Hyster Trucks; (1) 3-ton Automatic Lift Truck; (1) 7 1/2-ton Ross Truck; (1) 2-ton Towmotor; (2) Clark Pallet Type Trucks. H & H Equipment Co., Inc., 337 So. Industrial Blvd., Dallas, Texas.

APPROXIMATELY 350 3-WHEEL PLATFORM TRUCKS. CAN BE EXAMINED BY APPOINTMENT. CALL OR WRITE: AMERICAN STORES CO., SALVAGE DEPT., 424 NO. 19TH ST., PHILA. 30, PA. LOCUST 7-4000 EXT. 307.

FINGERS MOVE TONS...



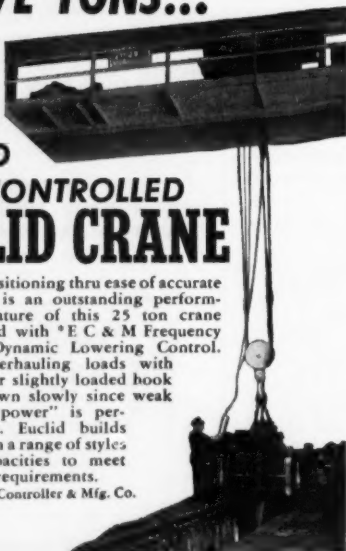
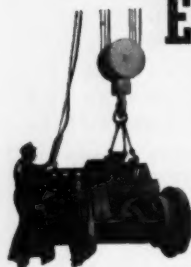
INCHES
OR FEET
WITH THIS
FLOOR

OPERATED

MAGNETIC CONTROLLED EUCLID CRANE

Spot-Positioning thru ease of accurate control is an outstanding performance feature of this 25 ton crane equipped with *E C & M Frequency Relay Dynamic Lowering Control. Non-overhauling loads with empty or slightly loaded hook start down slowly since weak "down power" is permissible. Euclid builds cranes in a range of styles and capacities to meet varied requirements.

*The Electric Controller & Mfg. Co.



THE EUCLID CRANE & HOIST CO.

1362 CHARDON ROAD • EUCLID, OHIO

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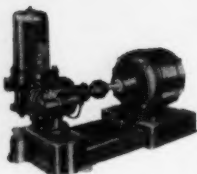
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EQUIPMENT FOR POWER FLUID TRANSMISSION

Primary
Oil Pumps



Vacuum

Powered

Rotary Air Pumps for vacuum bottling

Transmission

and

Low

Pressure

Air Service

Air

and

Liquid

Filters

Kraissl's patented, automatic, force-feed lubrication and flushing system makes these direct-drive, high-capacity pumps ideal for the special requirements of bottle-filling machinery.

Air-cooled design—or water-cooled models for heavier duty.

Class 21 roller-action pumps are recommended for handling corrosive gases and extraneous matter that might jam with closer clearances. The multi-blade design of the Class 25 pumps gives higher capacity efficiencies and is designed for applications requiring higher degree of vacuum.

Where water-cooling is desired for continuous service, the water-jacketed Class 25-WJ models are recommended.

Our exclusive Class 26 design air filter can be furnished as an integral part of each pump, up to 10 cfm—to produce oil-free discharge air and also conserve the lubricating oil.

WRITE TODAY FOR
BULLETIN A-1289



KRAISSL CO

292 Williams Avenue, Hackensack
Circle No. 35 on Reader Service Card
170

Clark Produces Safety Film

A DRIVER training and safety film for industrial trucks has been produced by Clark Equipment Company. Titled "Safety Saves", the 30-minute sound movie effectively illustrates the "do's and don'ts" of safe driving and shows the cause of most truck accidents and how to avoid them.

The leading character is Willie, a lad who drives his fork truck like a hot-rod. He is a menace to fellow employees, to the goods he's handling, and to himself. Before he finally learns his lesson, he makes one mistake too many, as shown in the accompanying illustration. He is carried away from the last scene on a stretcher.

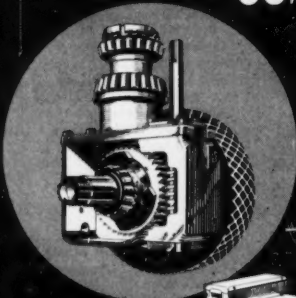
Besides horrible examples of how not to handle a fork truck, the movie shows the safe, correct method. The "Safety Saves" movie was produced in response to requests from truck users who expressed the need for a driver training film. The film will be available on a loan basis.



STUEBING DESIGNED • STUEBING ENGINEERED • STUEBING BUILT

HydroElectric LIFT TRUCKS

give you 50% easier steering



Want more facts
about this fine
power lift truck? Write to:



LIFT TRUCKS
INCORPORATED

The twin front wheel drive of a HYDROELECTRIC allows the operator to make shorter turns in closer quarters with one-half the effort of conventional single drive wheels. This is much more important than having a short truck.

The extreme ease of steering is obtained by the true automotive type of sealed-alloy gear transmission with opposed Timken bearings in steering column and wheels for true alignment. No troublesome chain drives... long life... less maintenance. Heat treated worm gears transmit power smoothly... are trouble-free for years. All gears including differential are sealed in lubricant. The entire power unit is interchangeable on all series "K" models.

2423-31 SPRING GROVE AVE.
CINCINNATI 14, OHIO

There is a model for every purpose to handle any kind of material.

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FLOW • APRIL, 1953

a **NEW** Towing Tractor



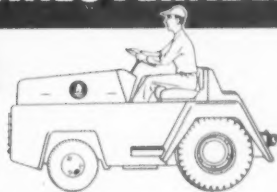
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TC-60 PAYLOADER TRACTOR **With Torque Converter**

This compact package of drawbar power brings a new standard of speed, convenience, control and safety to plants, airports, and freight yards . . . to rail, water and truck terminals. The torque converter drive provides smooth application of the tremendous pulling power to get big loads in motion and to handle them fast and safely . . . eliminates the friction clutch and all clutch maintenance. The full-reversing transmission makes available two speed ranges, both forward and reverse, with forward speeds up to 16.9 m.p.h. and reverse speeds up to 19 m.p.h.

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This "PAYLOADER" Tractor is service-tested and proven . . . is the product of the same engineering and manufacturing experience that developed and builds the widely-used "PAYLOADER" Tractor-Shovels . . . is sold and serviced by the same Hough Distributors with their complete, modern parts and service facilities and trained personnel. If you have towing and pulling problems, write for full information on the TC-60. The Frank G. Hough Co., 945 Sunnyside Ave., Libertyville, Illinois.



FEATURES . . .

- 67 H.P. Engine
- 6,000 Lb. Drawbar pull
- Torque-converter drive
- Full-reversing transmission
- Two speed ranges forward
- Two speed ranges reverse
- Top speed of 19 m.p.h.
- Turning radius 10'1" outside and 34" inside
- Overall dimension only 4'11" high, 9'8" long, 5'6" wide

SEE this

new tractor at the
Materials Handling Exposition in
Philadelphia May 18-22 BOOTH
NO. 1349.



PAYLOADER

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